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COAST AND GEODETIC SURVEY

O. H. TITTMANN
SUPERINTENDENT

TIDE TABLES

FOR THE YEAR 1909



PRICE 50 CENTS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1908

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JANUARY.							JULY.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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3	4	5	6	7	8	9	4	5	6	7	8	9	10
10	11	12	13	14	15	16	11	12	13	14	15	16	17
17	18	19	20	21	22	23	18	19	20	21	22	23	24
24	25	26	27	28	29	30	25	26	27	28	29	30	31
31													
FEBRUARY.							AUGUST.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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7	8	9	10	11	12	13	8	9	10	11	12	13	14
14	15	16	17	18	19	20	15	16	17	18	19	20	21
21	22	23	24	25	26	27	22	23	24	25	26	27	28
28							29	30	31				
MARCH.							SEPTEMBER.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
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APRIL.							OCTOBER.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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4	5	6	7	8	9	10	3	4	5	6	7	8	9
11	12	13	14	15	16	17	10	11	12	13	14	15	16
18	19	20	21	22	23	24	17	18	19	20	21	22	23
25	26	27	28	29	30		24	25	26	27	28	29	30
							31						
MAY.							NOVEMBER.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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9	10	11	12	13	14	15	14	15	16	17	18	19	20
16	17	18	19	20	21	22	21	22	23	24	25	26	27
23	24	25	26	27	28	29	28	29	30				
30	31												
JUNE.							DECEMBER.						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
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13	14	15	16	17	18	19	12	13	14	15	16	17	18
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Pilots and masters of vessels are earnestly requested to send information of dangers, notices of new shoals and channels, facts of interest to mariners, and suggestions for increasing the usefulness of charts or of these Tide Tables to the "Superintendent of Coast and Geodetic Survey, Washington, D. C." A piece of the chart affected, showing the change proposed, should accompany the information supplied. This Office will replace, free of charge, any chart so used.

A limited number of CHART CATALOGUES, indicating the outlines of Coast and Geodetic Survey Charts, will be sent, free of charge, to any address.

The list of Light-Houses and Lighted Beacons of the United States, and the lists of Beacons and Buoys in the different Light-House Districts, published by the Light-House Board, can be obtained, free of charge, on application to the Light-House Board, Washington, D. C., from the Inspectors of the several Light-House Districts, from the United States Custom-Houses, or from the principal Agencies of the Coast and Geodetic Survey.

SUPERINTENDENT OF THE COAST AND GEODETIC SURVEY,
WASHINGTON, D. C., U. S. A.

P R E F A C E.

The following tide tables for the year 1909 have been prepared in the tidal division of the Coast and Geodetic Survey Office. They are essentially similar to the volumes for preceding years, but improved values have been introduced wherever better data could be made use of.

Tide tables for the use of mariners have been published by the Coast and Geodetic Survey every year since 1853. For the first fourteen years these tables appeared as appendixes to the Annual Reports of the Superintendent of the Survey, and consisted of more or less elaborated means for enabling the mariner to make his own tide predictions as occasion arose. The first attempt by this Survey to give predicted tides was by the issue of two pamphlets entitled "Tide Tables for the Atlantic Coast of the United States for the year 1867," and "Tide Tables for the Pacific Coast of the United States for the year 1867," respectively. The former contained the predicted times and heights of the high waters, only for each day of the year 1867 at 15 stations, together with tidal constants and differences for 108 stations. The latter contained similar predictions for 4 stations, together with differences for 16 stations. This marked a distinct advance over the earlier tables which had been issued by this Survey.

The following year it was found desirable to include the low waters in all the predictions for the Pacific Coast, but for only one station on the Atlantic Coast, and it was not until the year 1887 that the low waters were given for all the Atlantic Coast stations. Commencing with the year 1896 the tide tables were extended to include the whole maritime world, practically as in the present volume.

In order to meet the demand for a cheap edition of the tide tables for the United States and adjacent waters, two reprints have been issued, one for the Atlantic Coast of the United States, including Canada and the West Indies, price 15 cents; and the other for the Pacific Coast of the United States, together with a number of foreign ports in the Pacific Ocean, price 10 cents.

This Survey acknowledges its indebtedness to the following-named authorities for valuable tidal information used in the preparation of these tables, in addition to the large number of observations already in its possession:

W. D. Alexander, Surveyor-General Hawaiian Islands, tides at Honolulu, Hilo, and Kahului, H. I. (1899).

W. P. Anderson, C. E., Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada, tidal information for Canadian ports.

Annales hydrographiques, Paris.

Annuaire des Marées de la Basse Cochinchine et du Tonkin, for 1894 and subsequent years.

Annuaire des Marées des côtes de France, Paris.

- Anuario de la Dirección de Hidrografía, Madrid, Spain.
- Anuario Hidrográfico del Río de la Plata, por C.-A. Avocena, Montevideo, 1891.
- Ricardo M. Arango, Division Engineer, Panama Canal (1906), tides at Cristobal and Panama.
- Edwin B. Simpson-Baikie, Royal Mail Steam Packet Company, Southampton, England, tides at Margarita Island, Venezuela.
- Manoel Carneiro de Souza Bandeira, Civil Engineer, Hydrographic Service, Rio de Janeiro, Brazil.
- A. J. Pinto Basto, Lieut. Commanding the *Mindovy*, Portuguese Navy, Lisbon, Portugal (1897).
- John Barrett, United States Consul-General (1894), Bangkok, Siam.
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- A. M. Bisbee, Coast Inspector (1894), Shanghai, China.
- Roger S. G. Boutell, Secretary of Legation of the United States (1906), The Hague, the Netherlands.
- Canadian Tidal Survey (see "Tidal and Current Survey of Canada").
- R. W. Chapman, Professor in University of Adelaide, harmonic tidal constants for Port Adelaide, South Australia.
- Charts of various nationalities: American, English, Dutch, French, German, and Spanish:
- Chief of Engineers, U. S. A., War Department, Washington, D. C.
- Powell Clayton, United States Ambassador (1905), Mexico.
- Coast Pilots and Pilots of various seas: American, English, French, German, Spanish, and Portuguese.
- John G. Coolidge, United States Secretary of Legation (1905), Peking, China.
- E. L. Corthell, C. E., tidal observations at the mouth of the Panuco River, Tampico, Mexico.
- George H. Darwin, Cambridge, England.
- W. Bell Dawson, D. Sc., C. E., Engineer in charge of Tidal and Current Survey of Canada; Department of Marine and Fisheries, Ottawa, Canada. Reports of progress, of Tidal and Current Survey, Tide Tables, and tidal differences for Canadian ports.
- Charles Denby, United States Minister (1894), Peking, China.
- Director Oficina Hidrográfica, Valparaiso, Chile, hourly heights of the sea at Valparaiso for one year.
- H. Percival Dodge, United States Secretary of Embassy (1905), Berlin, Germany.
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- O. O. Eckford, United States Consul (1894), Kingston, Jamaica.
- G. W. Ellis, United States Secretary of Legation (1905), Monrovia, Liberia.
- Exploring Expeditions of various nations: American, Dutch, English, French, German, and Spanish.
- W. H. Finley, a pamphlet on the Approximate Tide-Constants for Table Bay and Algoa Bay, Africa, through C. H. Benedict, United States Consul (1894), Cape Town.
- E. H. Francis, Pilot, Seattle, Wash.
- Gezeitentafeln. Herausgegeben vom Reichs-Marine-Amt, Berlin.
- E. A. Gieseler, Assistant U. S. Engineer, tides at Panama, January 1, 1885, to September 30, 1888.
- David Gill, H. M. Astronomer (1894), Cape Town Observatory, Cape Town, Africa.
- W. T. Glasgow, Secretary of Marine Département, Wellington, New Zealand, tidal observations for Port Chalmers, New Zealand, for the year 1898.
- R. J. L. Guppy (1894), Trinidad, West Indies.
- Arthur S. Hardy, United States Minister (1905), Madrid, Spain.
- P. Hatt, Service Hydrographique de la Marine, Paris, France, harmonic constants for five French ports, three ports in the Indian Ocean, and three ports in Cochin China.
- Hydrographer, Hydrographic Office, Navy Department, Washington, D. C.
- Hydrographic Office, Admiralty, London, England, the loan of valuable tidal records in many parts of the world.
- Ingénieur en Chef de Construction du Canal de l'Isthmus de Panama, the tides at Colon and Panama.
- Japanese Naval Department, through Edwin Dun (1894), United States Minister, Tokyo, Japan.

- Contre-Admiral R. von Kalmár, Director of the Naval Observatory, Pola, Austria (1897), hourly heights of the sea at Pola for the four years 1884-1887.
- London, Edinburgh, and Dublin Philosophical Magazine.
- Ernest Lyons, United States Minister Resident and Consul-General (1905), Monrovia, Liberia.
- Curtis J. Lyons, Hawaiian Government Survey (1895), Honolulu, Hawaiian Islands.
- Fenton R. McCreery, Secretary of American Embassy (1906), Mexico City, Mexico.
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- E. B. Michell, Bangkok, Siam, through John Barrett, United States Consul-General (1894), Bangkok, Siam.
- Ministerie van Marine, Afdeeling Hydrographie, 's Gravenhage, Netherlands.
- Frederick G. Morgan, United States Vice-Consul (1904), Cairo, Egypt.
- Charles A. Murphy, United States Consular Agent (1894), Port Adelaide, South Australia.
- E. Nevill, H. M. Astronomer (1894), Durban Observatory, Durban, Africa.
- Stanford Newel, United States Minister (1905), The Hague, Netherlands.
- Oficina Hidrográfica, Santiago, Chile.
- W. P. Pierce, United States Consul (1894), Port of Spain, Trinidad.
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- Capt. John Rodgers, U. S. N., tides at Papeeti, Tahiti.
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- S. Schneegans, United States Consul (1894), Saigon, Cochin China.
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- D. C. F. Thompson, R. N., Harbor Master (1894), Kingston, Jamaica.
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- Tidal and Current Survey of Canada, Reports of progress, Tide Tables and harmonic constants for Quebec, St. Paul Island in Cabot Strait, Halifax, Nova Scotia; St. John, New Brunswick; Victoria, and Sand Heads. Strait of Georgia, British Columbia; from which the Tide Tables for Halifax and St. John are calculated.
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Rear-Admiral W. J. L. Wharton, R. N., Hydrographer, Hydrographic Office, Admiralty, London, England.
J. T. Walbran, Captain of the *Quadra* (1896), British Columbia.
H. N. P. Wallaston, Secretary of Customs (1894), Melbourne, Victoria.
Thomas Wilson, Greenock, Scotland.

The predicted time and height of the high and low waters for 70 principal ports or stations are given in Table 1, pages 52-332, for each day throughout the entire year 1909. They have been made by means of the Ferrel tide machine, described in Appendix 10 of the Superintendent's Report for 1883. The harmonic constants used for these predictions, as well as the length of series analyzed, are given in Table 4 of this volume.

These stations are distributed as follows: 20 on the eastern and 7 on the western coast of North America, 4 in South America, 14 in Asia, 1 in Africa, 15 in Europe, and 9 in Oceania. They are usually referred to in this volume as principal or standard ports. These predictions are extended to about three thousand subordinate stations by means of the tidal differences and ratios of Table 3, pages 338-453. The predicted times of all the slack waters for the year 1909 are given for two stations, Seymour Narrows, British Columbia, and Sergius Narrows, Alaska, on pages 486-493.

An explanation of the tables, with examples of their use, is given on pages 37-50.

O. H. TITTMANN,
Superintendent.

FEBRUARY, 1908.

INTRODUCTION.

TREATISE ON TIDES.

1. *General statements.*

The word *tide* is used to indicate the periodic rising and falling of oceanic and other large bodies of water, due mainly to the attraction of the moon and sun. This rising and falling necessitates a lateral or horizontal movement of the waters; such movements are called *tidal currents*. They usually flow and ebb somewhat in retard of the rising and falling of the tide. As the velocity and direction of tidal currents are much modified by extremely local causes, while the times and heights of the tides remain nearly constant over considerable areas, the currents may with propriety be made to depend upon the tides; for this reason their discussion will be postponed to § 11.

The tide rises until it reaches a maximum height called *high water*, and then falls until it reaches a minimum height called *low water*; these two phases of the tide may be spoken of as *the tides*. For a few minutes before and after high or low water it is difficult to observe any vertical motion in the tide; while thus apparently stationary the tide is said to *stand*. The duration of high or low water stand is usually too vague a quantity to be of much service in describing the character of the tide.

For reasons to be given later, based upon the fact that the tides are chiefly due to the difference between the moon's attraction upon the enveloping sea and the earth as a whole, one would expect that at most tidal stations two high waters and two low waters would occur each lunar day; in other words, to each transit of the moon (inferior as well as superior) there would correspond one high water and one low water. On an average the time of high water at a given station follows the time of transit by a certain number of hours and minutes called the *high water interval* (HWI) or *high water lunitidal interval*, or the *corrected establishment*. In like manner the *low water interval* (LWI) or *low water lunitidal interval* indicates the average number of hours and minutes between the time of transit and the time of low water.

According as the moon is in or near the perigee, apogee, or either tropic, the tides are distinguished as *perigean*, *apogean*, or *tropic* tides. *Spring tides* occur at about the time of new or full moon, and *neap tides* at about the time of either quarter. More definite notions in regard to these tides will be given in § 8.

2. *Directions for observing tides.*

Wherever tides are to be observed, the first thing to do is to fix a well-graduated vertical *staff* in as permanent a position as possible. A solid wall or pile will often furnish a suitable support. The heights of several bench marks above the zero of this staff should then be determined with considerable precision in order to detect any settling or rising in the support of the staff. These bench marks should be of a permanent character and situated at various distances from the staff. The object of such permanence is to enable one to recover the plane of reference at any future time.

Direct staff readings.—The staff and bench marks established, the observer should read the height of the tide at even intervals of time. Readings at the exact hours throughout the twenty-four hours of each day are preferable for most purposes. The kind of time used is immaterial, provided that it be the same throughout the series of observations. It should

always be specified in the record. In making such observations it is of importance to know the time to within about one minute. In high and low water observations readings should be made every ten minutes, say for about forty minutes before to forty minutes after each of the four tides of the day. In reading a height upon the staff, unless the surface of the water be perfectly smooth, note a point midway between the crest and trough of the waves. A glass tube open at both ends and held alongside the staff will facilitate making these readings. When the surface is, as a rule, too rough for staff readings, the water in a well communicating with the sea by means of a pipe half an inch or more in diameter should be observed instead.

Box gauges.—A box gauge consists of a long vertical box inclosing a float which rises and falls with the tide. In some cases the float carries a vertical rod which may itself be graduated; in others the float is attached to a wire or cord which passes over a pulley, then along a graduated scale, and terminates in a counterpoise. This gauge permits readings to be made when the sea is comparatively rough. A simple staff gauge should always be located near a box gauge and the readings of the two should be frequently compared, for it is obvious that the line of flotation is liable to become somewhat altered.

Automatic or self-registering tide gauges.—A gauge of this variety requires a float and box similar to those employed in a box gauge. The motion of the float, as it rises and falls, is communicated to a pencil which traces a curve upon a moving sheet of paper. Uniform motion is imparted to the paper by means of a cylinder or drum driven by a well-regulated clock. The pencil is free to move in a direction perpendicular to the line of motion of the paper. The paper, usually of sufficient length to contain a month's record, is paid out from one cylinder, passes over a second, and is received upon a third. This gauge, besides giving a continuous record, requires a comparatively small portion of the observer's time. Staff readings (upon a staff gauge) and time comparisons should be made at frequent intervals and recorded upon the tidal sheet or marigram. These staff readings should be made within an hour, say, of the times of high or low water.

3. *General properties of tides.*

Confining one's attention to a particular station, the following properties common to most tides are usually revealed by means of a few days' observation:

(1) Two high waters and two low waters occur during each twenty-four or twenty-five hours.

(2) The alternate high or low waters are more or less unequal.

(3) The heights of corresponding tides vary from day to day.

(4) The lunitidal intervals (high or low water) are different for alternate tides.

(5) The lunitidal intervals for corresponding tides vary from day to day.

(6) The inequality in height or interval referred to in (2) or (4) becomes greater as the moon's declination, either north or south, increases. This does not apply, because of the sun's tidal effect, to the lesser inequality at stations where the high and low waters are affected by quite unequal amounts.

(7) The range of tide (as determined from all four tides of the day) is ^{greater} _{less} than usual near the time of ^{new or full moon.} _{the moon's quadrature.}

(8) The range of tide is ^{greater} _{less} than usual near the time when the moon is in ^{perigee.} _{apogee.}

(9) The lunitidal intervals are ^{shorter} _{longer} than usual near the times of the ^{first and fifth} _{third and seventh} octants.

The above statements do not usually apply to the tides at stations where but one high and one low water occur daily. The readily observable properties of such tides are:

[1] But one high and one low water occur daily when the moon is far from the equator.

[2] Two high and two low waters, both comparatively small, may occur daily when the moon is near the equator.

[3] The moon being far from the equator, the (diurnal) range of tide is ^{increased} _{decreased} near the time of either ^{solstice.} _{equinox.}

4. *The equilibrium theory of tides.*

The uncorrected equilibrium theory begins by assuming—

(1) That the nucleus of the earth is comparatively rigid (or that at least its outer layer is a rigid shell), and that it is composed of concentric spherical layers, each layer having a constant density.

(2) That the nucleus is covered by a fluid of uniform depth, shallow as compared to the radius of the nucleus, but deep as compared to the rise and fall of tide.

(3) That this fluid has neither inertia nor viscosity, nor is there friction between the fluid layer and the nucleus or the enveloping atmosphere.

As these conditions are far from being realized in the case of nature, observations will show at best only certain approximations toward ideal values. Before introducing the modifications necessary to adapt the theory to the tides, it seems desirable to ascertain what the tendencies are in the ideal case.

Since the angular velocity of the moon in her orbit and the rotary motion of the earth's surface are finite, while the particles of fluid are supposed to respond *immediately* to the forces acting upon them, we may consider the earth's surface as stationary during any given instant, and treat the surface assumed by the water as a case of static equilibrium.

Because of hypothesis (1), the attraction of the moon upon the nucleus is the same as it would have been had the entire mass been concentrated at the earth's center.

At any given place the tide-producing tendencies depend chiefly upon the distance and direction of the disturbing body, and are governed by what may be referred to as Laws I and II.

Law I.—The tendency to produce tides at a given station varies directly as the mass of the disturbing body and inversely as the cube of the body's distance from the earth's center.

In consequence of this law the amplitude of the solar tide ought to be about 0.458 time that of the lunar tide. For the mass of the sun = 331 000, and the mass of the moon = 1/81, the mass of the earth being unity, while the sun's distance = 92 800 000 miles and the moon's distance = 239 000 miles, so that—

$$\text{solar tide: lunar tide} = \frac{331\,000}{(92\,800\,000)^3} : \frac{1}{81} \times \frac{1}{(239\,000)^3}; \quad (1)$$

$$\therefore \text{solar tide} = 0.458 \text{ lunar tide.} \quad (2)$$

The eccentricity of the lunar orbit being 0.055, this law gives

$$\text{perigeon range: mean range} = \frac{1}{(1 - \text{eccentricity})^3} : 1, \quad (3)$$

$$\text{apogean range: mean range} = \frac{1}{(1 + \text{eccentricity})^3} : 1, \quad (4)$$

$$\therefore \text{perigeon range} = 1.18 \text{ mean range,} \quad (5)$$

$$\text{apogean range} = 0.85 \text{ mean range.} \quad (6)$$

Law II.—The tendencies to produce tide for various relative positions of the tide-producing body are proportional to

$$3 \cos^2 \theta - 1, \quad (7)$$

where θ is the zenith distance of the body corrected for parallax. In other words, θ is the angle at the earth's center defined by the given station and the center of the disturbing body.

If u denote the height of tide expressed in terms of the earth's radius, a , then it is proportional to $3 \cos^2 \theta - 1$; in other words, we may put $u = \alpha' (3 \cos^2 \theta - 1)$. The equation of the surface of the sea at any given instant is

$$\rho = a (1 + u), \quad (8)$$

or

$$\rho = a + a \alpha' (3 \cos^2 \theta - 1), \quad (9)$$

which is the equation of an ellipsoid whose semiaxes are

$$a (1 + 2 \alpha'), a (1 - \alpha'), a (1 - \alpha'). \quad (10)$$

That is, forces acting according to this law cause the surface of the sea to assume the form of an ellipsoid of revolution whose longest axis points toward the tide-producing body.

It will be observed that when the moon, say, is in the zenith (or nadir), the elevation of the sea is $2 a \alpha'$ higher because of the existence of the moon; but when in the horizon, the elevation of the sea is $a \alpha'$ lower.

For a given place the height of the tide will vary from hour to hour of the day chiefly on account of the variations in θ ; but, as already noted, it varies somewhat on account of the variation in r , the moon's distance.

For a given place the angle θ depends upon the moon's hour angle and its declination, both of which are functions of time. From spherical trigonometry,

$$\cos \theta = \cos \lambda \cos \delta \cos (\psi - l) + \sin \lambda \sin \delta \quad (11)$$

where

λ = geographic latitude of the station,

l = longitude of the station (W. from Greenwich),

δ = moon's declination,

$\psi = mt$ = moon's hour angle (W. from the meridian of Greenwich).

$$\begin{aligned} \therefore a \alpha' (3 \cos^2 \theta - 1) &= \frac{1}{2} a \alpha' \cos^2 \lambda \cos^2 \delta \cos 2(\psi - l) \\ &\quad + 3 a \alpha' \sin \lambda \cos \lambda \sin 2\delta \cos (\psi - l) \\ &\quad + \frac{1}{2} a \alpha' (3 \sin^2 \lambda - 1) (3 \sin^2 \delta - 1) \\ &= \text{height of tide according to the uncorrected equilibrium theory.} \end{aligned} \quad (12)$$

For the lunar tide,

$$a \alpha' = \frac{1}{2} \frac{\text{mass of moon}}{\text{mass of earth}} \times \frac{a^4}{(\text{moon's distance})^3} = 0.59 \text{ feet}; \quad (13)$$

and for the solar tide,

$$a \alpha' = \frac{1}{2} \frac{\text{mass of sun}}{\text{mass of earth}} \times \frac{a^4}{(\text{sun's distance})^3} = 0.27 \text{ feet.} \quad (14)$$

(i) The height of the semidiurnal portion of the lunar or solar tide at a given station is proportional to the cosine of twice the local hour angle of the moon or sun multiplied by the square of the cosine of its declination. The factor depending upon the declination is always near unity.

(ii) The height of the diurnal portion of the lunar or solar tide at a given station is proportional to the cosine of the local hour angle of the moon or sun multiplied by the sine of twice its declination. The factor depending upon the declination varies almost directly with the declination.

(iii) There is a portion of the lunar or solar tide which depends, at a given station, wholly upon the declination of the moon or sun. The height of this portion is proportional to $3 \sin^2 \delta - 1$, where δ represents the declination of the moon or sun. The period of this expression is a half tropical month or year, as the case may be.

The height of the entire tide, or of the surface of the sea, at any given time and place, is the sum of the six terms just referred to—three belonging to the moon and three to the sun.

The corrected equilibrium theory.—To approximately adapt the foregoing theory to the case of nature, we may write the height of the lunar or solar tide in the form

$$\begin{aligned} & R_2 \cos^2 \delta \cos [2 (\psi - l) - \varepsilon_2] \\ & + R_1 \sin 2 \delta \cos [\psi - l - \varepsilon_1] \\ & + R_0 [3 \sin^2 \delta - 1] \end{aligned} \quad (15)$$

where R and ε must be determined from observations at the given stations. Statements (i), (ii), and (iii) require no modification, except that for “hour angle” we must write “hour angle diminished by a constant appropriate for the station in question” and so for “twice the hour angle.”

This correction is theoretically necessary (even if the water have neither inertia nor friction) because the earth’s surface is not wholly covered with water, and the equation of continuity can not generally be satisfied when the rise and fall is as given by equation (12) unless we continually alter the plane of reference.

The R ’s, as did the α ’s, involve the factor

$$\left(\frac{\text{mean distance of moon}}{\text{actual distance of moon}} \right)^3 = \left(\frac{c}{r} \right)^3 = \left(\frac{\text{actual parallax}}{\text{mean parallax}} \right)^3 \quad (16)$$

In practice the inertia and friction of the water produce important modifications in the R ’s and ε ’s from their equilibrium values. Nevertheless, the *form* (15) is capable of approximately representing the rise and fall of the tide in nature. This is especially true, if we make the further modification of taking δ and r at times anterior to the time of tide. Such times, as well as the R ’s and α ’s must be determined from observations made at the given station.*

5. *Explanation of phenomena noted in § 3 by the equilibrium theory.*

The tides in (i), § 4, are semidiurnal, while those in (ii) are diurnal. Each may, for any particular day, be represented by a cosine curve of proper length (period) and amplitude. Now it is obvious that the superposition of a diurnal curve upon a semidiurnal will, in general, cause the alternate maxima or minima of the semidiurnal curve to become more or less unequal in height and unequally displaced in time. These statements account for (1), (2), and (4) of § 3. As noted in (ii), § 4, the amplitude of the diurnal curve (lunar or solar) is nearly proportional to the declination of the moon or sun. This explains property (6), § 3.

The superposition of a semidiurnal curve or wave upon another of nearly equal period, but of greater amplitude, simply increases or decreases the amplitude of the latter when approximately like or opposite phases coincide; but when the phases differ by approximately 90° or 270° the principal wave is displaced in time by the subordinate one—accelerated or retarded according as the maximum, say, is 90° in advance or in retard of the maxima of the principal wave. This accounts for properties (3), (5), (7), and (9), § 3. Property (8) has been explained in § 4, where the values of the perigeon, apogean, and mean ranges are compared. This amounts to varying the α ’ or the R ’s inversely as the cube of the moon’s distance from the earth’s center.

At a station where observation shows that R_1 is several or many times as great as R_2 , expression (15), the number of maxima and minima of a curve composed of diurnal and semidiurnal parts will usually depend upon the number of maxima and minima of the diurnal part when the moon’s declination is great; but when the moon is near the equator the number may be governed by the semidiurnal part. This accounts for properties [1] and [2], § 3. The moon crosses the equator and reaches its extreme declination at nearly the same points in the heavens as does the sun. This accounts for property [3].

* Cf. Thomson and Tait’s Natural Philosophy, §§ 804–811.

6. A still more perfect form or expression for the equilibrium theory is obtained by developing the tide-producing potential (the principal part of which is inversely proportional to the cube of the disturbing body's distance from the earth's center, and directly proportional to $3 \cos^2 \theta - 1$, § 4) into a series of cosine terms. For considerable periods of time the coefficients of these terms remain sensibly constant and their angles or arguments increase uniformly with the time. Having found from the development of the potential what are the more important terms, one then assumes that by leaving all amplitudes and epochs arbitrary the series is, by the principle of forced oscillations,* capable of representing the tide at any given station. The harmonic analysis, § 7, has for its object the determination of these amplitudes and epochs from tidal records.

7. *Harmonic analysis.*†

Since the tide is periodic in its character, and since the periods of its causes are known from astronomical considerations, it ought to be possible to represent the height at any given time by means of the Fourier series, or, rather, an aggregation of such series,

$$y = A \cos (at + \alpha) + B \cos (bt + \beta) + \dots \quad (17)$$

where y is reckoned from mean sea level.

For aiding the imagination, we may suppose that any given term in this series represents the oscillation caused by a fictitious star, or moon, moving uniformly in the celestial equator around the earth, and at a constant distance therefrom, having the property of producing a maximum of the oscillation, or component tide, a certain number of hours after its upper meridian passage, and a minimum the same number of hours after its lower meridian passage.

If a denote the hourly speed of the component A , or the apparent angular velocity of its fictitious moon, and A° its epoch or lag expressed in degrees, A°/a is the lag expressed in hours. Also if $\arg_0 A$ denote the hour angle of the fictitious moon at local mean midnight, $at + \arg_0 A$ is its hour-angle at any subsequent hour t . Consequently the time of high water of the component A is

$$t = \frac{A^\circ}{a} - \frac{\arg_0 A}{a}, \quad (18)$$

and the height at any time t is

$$A \cos (at + \arg_0 A - A^\circ) \quad (19)$$

so that

$$\alpha = \arg_0 A - A^\circ. \quad (20)$$

By replacing A , A° , a , and α by B , B° , b , and β , the corresponding quantities for any other component, B , are obtained.

The heights due to any components may be shown graphically thus (see Fig. 1):

Lay off the hours of the day according to any convenient scale. Draw cosine curves of amplitudes A , B , . . . and of periods $\frac{360}{a}$, $\frac{360}{b}$, . . . hours in length. The first maxima are located upon the hour lines

$$\frac{A^\circ}{a} - \frac{\arg_0 A}{a}, \quad \frac{B^\circ}{b} - \frac{\arg_0 B}{b} \quad \dots ; \quad (21)$$

the succeeding maxima are then fixed by the lengths of the several periods. The symbol \triangleright may be used to indicate the time of transit of any fictitious moon.

To combine these curves, add the ordinates for each hour, thus obtaining the resultant tidal curve from which the times and heights of high water and low water may be obtained.

The object of the harmonic analysis is to resolve the observed tide—i. e., observed heights of the surface of the sea—into simple elements of component tides, consisting of simple

*See Laplace, *Méc. Céleste*, IV, iii, § 16.

†See an article entitled *Harmonic Analysis of Tidal Observations*, by Prof. G. H. Darwin, B. A. A. S. Report, 1883; also, article *Tides*, *Encyclopædia Britannica*, ninth edition.

harmonic oscillations. The quantities a, b, \dots and $\arg_0 A, \arg_0 B, \dots$ are known from astronomical considerations, so that the analysis of the tide at a given place implies only the determination of the amplitudes A, B, \dots and the epochs A^0, B^0, \dots .

To analyze harmonically the tide at a given place, let its height be given at each hour of the day for a year, say. Sum these ordinates as nearly as may be at the component hours of each component (its harmonics excepted). The sums belonging to each component will be 24 in number and represent sums corresponding to each of the twenty-four hours into which the component day is supposed to be divided. As the summation in each case is made with reference to the component hours, the effect of the other components upon these 24 sums will, in the long run, approach zero or a constant. Having found the 24 heights corresponding

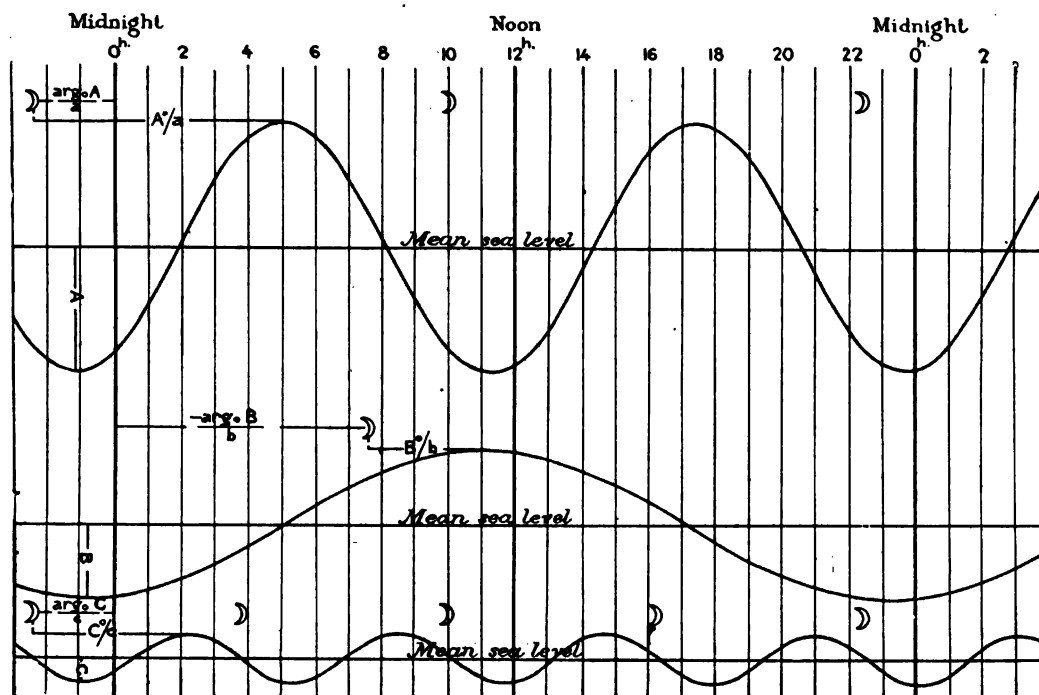


Fig. 1.

to these sums, they may be plotted as hourly ordinates; such a plotting would represent the required component tide combined with its harmonics. To analyze these 24 heights, $h_0, h_1, h_2, \dots, h_{23}$, assume each to be of the form

$$h = H_0 + \bar{A}_1 \cos at + \bar{A}_1 \sin at + \bar{A}_2 \cos 2at + \bar{A}_2 \sin 2at + \dots + \bar{A}_8 \cos 8at + \bar{A}_8 \sin 8at, \quad (22)$$

where $at = 0^\circ, 15^\circ, 30^\circ, \dots, 345^\circ$.

It is not difficult to show that the most probable values of H_0, \bar{A}, \bar{A} are given by the equations

$$\begin{aligned} 24 H_0 &= h_0 + h_1 + h_2 + \dots + h_{23}, \\ 12 \bar{A}_1 &= h_0 \cos 0^\circ + h_1 \cos 15^\circ + h_2 \cos 30^\circ + \dots + h_{23} \cos 345^\circ, \\ 12 \bar{A}_2 &= h_0 \cos 0^\circ + h_1 \cos 30^\circ + h_2 \cos 60^\circ + \dots + h_{23} \cos 330^\circ, \\ 12 \bar{A}_3 &= h_0 \cos 0^\circ + h_1 \cos 45^\circ + h_2 \cos 90^\circ + \dots + h_{23} \cos 315^\circ, \\ &\vdots \\ 12 \bar{A}_1 &= h_0 \sin 0^\circ + h_1 \sin 15^\circ + h_2 \sin 30^\circ + \dots + h_{23} \sin 345^\circ, \\ 12 \bar{A}_2 &= h_0 \sin 0^\circ + h_1 \sin 30^\circ + h_2 \sin 60^\circ + \dots + h_{23} \sin 330^\circ, \\ 12 \bar{A}_3 &= h_0 \sin 0^\circ + h_1 \sin 45^\circ + h_2 \sin 90^\circ + \dots + h_{23} \sin 315^\circ, \\ &\vdots \end{aligned} \quad (23)$$

From these values of A , \bar{A} , we find A and α by the relations

$$A = (\bar{A}^2 + \bar{A}^2)^{1/2}, \tan \alpha = -\frac{\bar{A}}{A}. \quad (24)$$

A° then becomes known by the equation

$$A^\circ = \arg_0 A - \alpha, \quad (25)$$

$\arg_0 A$ being known from astronomical considerations.* So for components B , C , etc.

It may be added that because the hourly heights are tabulated in solar time most of the amplitudes as brought out in the analysis must be increased by a factor a little greater than unity, known as the augmenting factor; also that most of these amplitudes must be corrected for the longitude of the moon's node by the application of a suitable factor. For series less than about a year in length still other corrections must be applied.

8. Terms sometimes useful in describing tides.

A *lunitidal interval* is the period of time by which the tide of any place follows after the moon's local meridian passage, at either the upper or lower transit. Lunitidal intervals are divided into separate classes by appending qualifying words, to indicate the kind of tides to which they apply; for instance, *mean high water lunitidal interval* (HWI), *mean low water lunitidal interval* (LWI), *mean tropic higher high water lunitidal interval* (HHWI), *mean tropic lower low water lunitidal interval* (LLWI), and so on as occasion may arise to designate intervals as applying to a special group or class of tides.

The tropic lunitidal intervals in Table 3 of this volume are followed by the letter a or b in order to enable one to obtain the approximate time of higher high and lower low water for any station. When the tropic interval (HHWI or LLWI) is marked a , add the interval to the local time of the moon's ^{upper} transit, or meridian passage, for ^{north} declination of the moon; and when it is marked b add the interval to the local time of the moon's ^{lower} transit for ^{south} declination of the moon. See formulas (32) and (33).

The establishment of the port, or vulgar establishment, as it is sometimes called, is the *mean high water full and change lunitidal interval*; that is, at the times of new and full moon.

The corrected establishment of the port is the *mean high water lunitidal interval* (HWI) for one or more lunations, and it is usually from ten to fifteen minutes less than the vulgar establishment.

The priming of the tide is the periodic acceleration of its time of occurrence, due to the sun's effect. At such times the lunitidal intervals are less than their mean, so that the tides occur earlier than the average. The priming of the tides occur during the period between new or full moon and the following quadrature, beginning and ending at a time equal to the age of the phase inequality (26) after these phases. It attains its maximum effect soon after the first and fifth octants of the moon's phase. See table of phase effects (51).

The lagging of the tide is the corresponding retardation in the time of its occurrence, the greatest effect being soon after the third and seventh octants of the moon's phase.

Mean range (Mn) is the average value of the semidaily range of tide. When the tide is chiefly diurnal, the mean range [Mn] given in table 3 of this volume is inclosed in square brackets, and denotes the average of the few small semidiurnal tides which usually occur at such stations when the moon is near the equator.

Spring range (Sg) is the greatest periodic semidaily range occurring usually one or two days after new and full moon. The time after new and full moon is the age of the phase inequality.

*The arguments for January 1 of each year from 1850 to 1950 are given upon pages 195-204, Part II, U. S. Coast and Geodetic Survey Report for 1894.

Neap range (N_p) is the smallest periodic semidaily range occurring usually one or two days after the moon is in quadrature—that is, after the first and third quarters. The time after the moon's quadratures is also the age of the phase inequality.

Perigean range (P_n) is the greatest periodic semidaily range of tide occurring usually from one to three days after the moon is in perigee. The time after the moon's perigee is the age of the parallax inequality.

Apogean range (A_n) is the smallest periodic semidaily range occurring usually from one to three days after the moon is in apogee. The time after the moon's apogee is also the age of the parallax inequality.

Great diurnal range (G_t) is the difference between the mean of all the higher high waters (HHW) and the mean of all the lower low waters (LLW) of each day during one or more half tropical months.

Small diurnal range (S_t) is the difference between the mean of all the lower high waters (LHW) and the mean of all the higher low waters (HLW) of each day during one or more half tropical months.

Great tropic range (G_c) is the greatest periodic daily range of tide usually occurring soon after the moon is farthest north or south from the equator and therefore near one of the tropics. The time after the moon's greatest declination is the age of the diurnal inequality.

Small tropic range (S_c) is the smallest periodic daily range of tide usually occurring soon after the moon is farthest north or south from the equator and therefore near one of the tropics. The time after the moon's greatest declination is the age of the diurnal inequality.

Tides determining the above ranges, or of simultaneous occurrence, may be referred to as *spring, neap, perigean, tropic*, etc.; a like remark is applicable to lunitidal intervals, and occasionally to other quantities.

An *inequality* in the interval, range, or height of tide, is a systematic departure of the same from the mean value at a given station. The inequality having the period of a half synodic month is the *phase inequality*; that having an anomalistic month is the *parallax inequality*; that which has the period of a tropical month causes the two high waters or two low waters of a day to differ in height and is called the *diurnal inequality*.

The *age* of an inequality is the amount of time by which it follows its astronomical cause. The ages of the principal inequalities are given by the expressions—

$$\text{Age of phase inequality} = 0.984 (S_p^\circ - M_p^\circ) \text{ hours} \quad (26)$$

$$\text{Age of parallax inequality} = 1.837 (M_p^\circ - N_p^\circ) \text{ hours} \quad (27)$$

$$\text{Age of diurnal inequality} = 0.911 (K_1^\circ - O_1^\circ) \text{ hours} \quad (28)$$

where the letters are the epochs or lags (\circ) of the harmonic components represented by them; their numerical values can be found in Table 4, for each of the seventy standard ports; and these ages are usually nearly constant over a considerable area. These times represent the retard of the spring and neap, the perigean and apogean, and the tropic tides, respectively, behind their astronomical causes.

Tropic diurnal inequality (HWQ, LWQ) as here used denotes the greatest periodic difference in height between two consecutive high waters or low waters, usually occurring soon after the moon is farthest north or south from the equator; this inequality is determined by the tropic tides, although the smaller inequality at some stations may not then have, even approximately, its maximum value.

Diurnal wave is that portion of the tide whose period is approximately one day, and where this wave predominates the tide is said to be chiefly *diurnal*.

Sequence of tide is the order in which the four tides of a day occur, particularly when the moon is far from the equator. It may be expressed thus, HHW to LLW or LLW to HHW

as the case may be. The former expression indicates that tropic LLW follows tropic HHW without the lesser tides intervening. The time between tropic HHW and tropic LLW must be taken as less than a half lunar day. At some stations it is necessary to have both sun and moon far from the equator in order to fix the sequence.

Type of tide is the characteristic form of the tide. It is generally indicated by the sequence of tides, together with the ratios of each of the tropic diurnal inequalities, and of the spring range, to the mean range. For shallow waters, however, in rivers especially, the duration of rise or fall may become very important.

Figure 2 illustrates the tropic tides and quantities connected with them at San Francisco. In this case the tide has a large diurnal inequality in heights, the sequence is HHW to LLW, and $LWQ > HWQ$.

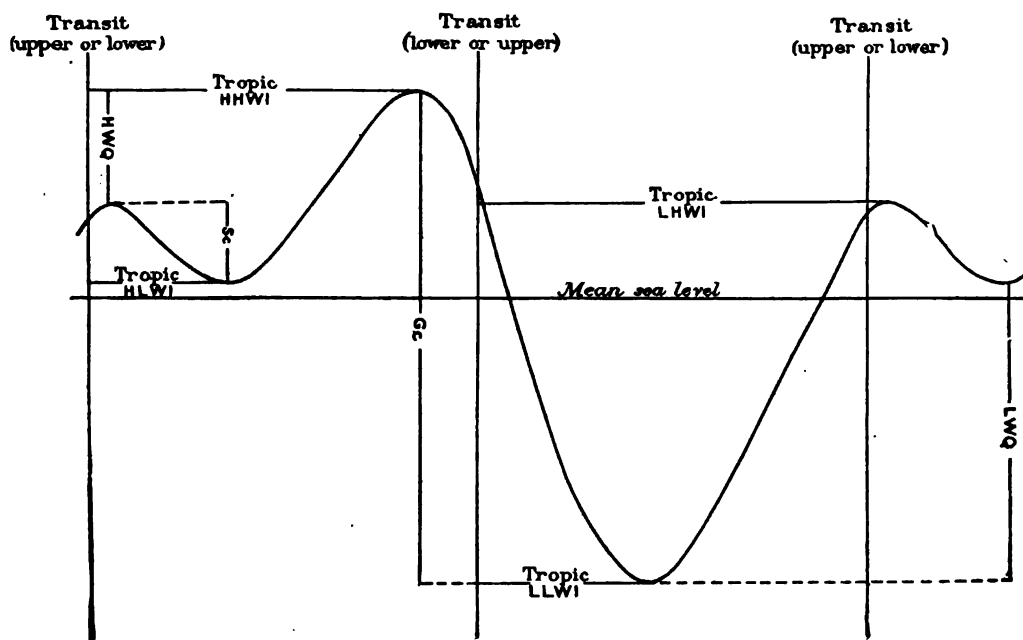


Fig. 2.

9. Theoretical relations between the various intervals, ranges, planes of reference, etc.

The duration of rise or fall of tide may be obtained from the following equations, adding $12^h 25^m$ when necessary to make the result positive.

$$\text{Duration of rise} = \text{HWI} - \text{LWI}. \quad (29)$$

$$\text{Duration of fall} = \text{LWI} - \text{HWI}. \quad (30)$$

The sum of the four tropic lunitidal intervals is equal to twice the sum of the two mean intervals, thus:

$$\text{HHWI} + \text{LHWI} + \text{HLWI} + \text{LLWI} = 2 (\text{HWI} + \text{LWI}). \quad (31)$$

In Table 3, of these Tide Tables, only two of the tropic intervals are given, and the other two tropic intervals may be obtained from the following approximate relations:

$$\text{Tropic LHWI} = 2 \text{ HWI} - \text{tropic HHWI}. \quad (32)$$

$$\text{Tropic HLWI} = 2 \text{ LWI} - \text{tropic LLWI}. \quad (33)$$

Some approximate height relations are given in formulas (34) to (49).

$$2 \text{ Mn} = \text{Sg} + \text{Np} + \frac{1}{4} \frac{(\text{Sg} - \text{Np})^2}{\text{Sg} + \text{Np}}. \quad (34)$$

$$2 \text{ Mn} = \text{Gt} + \text{Sl}. \quad (35)$$

$$\text{Gc} - \text{Sc} = \text{HWQ} + \text{LWQ}. \quad (36)$$

For the great diurnal range (Gt) three cases are considered:

$$\text{Gt} = \frac{3}{4} \text{Gc} + \frac{1}{4} \text{Mn}, \text{ when either HWQ or LWQ (or both) exceeds } \frac{\text{Mn}}{4}. \quad (37)$$

$$\text{Gt} = \text{Mn} + \frac{1}{4} (\text{HWQ} + \text{LWQ}), \text{ when both HWQ and LWQ are less than } \frac{\text{Mn}}{4}. \quad (38)$$

$$\text{Gt} = 0.64 \left(\text{Gc} + \frac{[\text{Mn}]^2}{\text{Gc}} \right), \text{ when the tide is chiefly diurnal}. \quad (39)$$

For the depression of mean lower low water below mean low water three cases are considered:

$$\text{LW} - \text{LLW} = \frac{\text{LWQ}}{3} + \frac{.04 (\text{Gc} - \text{Mn})^2}{\text{LWQ}}, \text{ when LWQ} > \text{HWQ}, \text{ and also exceeds } \frac{\text{Mn}}{4}. \quad (40)$$

$$\text{LW} - \text{LLW} = \frac{3}{4} (\text{Gc} - \text{Mn}) - \frac{\text{HWQ}}{3} - \frac{.04 (\text{Gc} - \text{Mn})^2}{\text{HWQ}}, \text{ when HWQ} > \text{LWQ}, \text{ and also exceeds } \frac{\text{Mn}}{4}. \quad (41)$$

$$\text{LW} - \text{LLW} = \frac{\text{LWQ}}{3}, \text{ when HWQ and LWQ are each less than } \frac{\text{Mn}}{4}. \quad (42)$$

$$\text{LW} - \text{LLW} = \frac{\text{Gt}}{\text{Gc}} (\text{MSL} - \text{TcLLW}) - \frac{[\text{Mn}]}{2}, \quad (43)$$

when the tide is chiefly diurnal. In this case mean low water and mean range are limited to the equatorial tides.

The heights of the tide are all referred to some one of the following three planes of reference: Mean low water, mean low-water springs, and mean lower low water. The definition of each plane as used in these tables is given here by an expression which indicates its depression in feet below mean sea level.

$$\text{MSL} - \text{Mean low water} = \frac{\text{Mn}}{2}, \text{ where Mn is the mean semidiurnal range}. \quad (44)$$

$$\text{MSL} - \text{Mean low water springs} = \frac{\text{Sg}}{2}, \text{ where Sg is the mean range of spring tide}. \quad (45)$$

MSL - Mean lower low water depends upon the diurnal inequalities in high and low water, and there are four cases considered:

When $\text{LWQ} > \text{HWQ}$, and exceeds, say, $\frac{\text{Mn}}{4}$,

$$\text{MSL} - \text{LLW} = \frac{\text{Mn}}{2} + \frac{\text{LWQ}}{3} + \frac{.04 (\text{Gc} - \text{Mn})^2}{\text{LWQ}}; \quad (46)$$

When $\text{HWQ} > \text{LWQ}$, and exceeds, say, $\frac{\text{Mn}}{4}$,

$$\text{MSL} - \text{LLW} = \frac{3\text{Gc}}{4} - \frac{\text{Mn}}{4} - \frac{\text{HWQ}}{3} - \frac{.04 (\text{Gc} - \text{Mn})^2}{\text{HWQ}}; \quad (47)$$

When HWQ and LWQ are each less than about $\frac{\text{Mn}}{4}$,

$$\text{MSL} - \text{LLW} = \frac{\text{Mn}}{2} + \frac{\text{LWQ}}{3}; \quad (48)$$

When the tide is chiefly diurnal,

$$\text{MSL} - \text{LLW} = 0.64 \left(1 + \frac{[\text{Mn}]^2}{\text{Gc}^2} \right) (\text{MSL} - \text{TcLLW}) = (\text{Gt} \div \text{Gc}) (\text{MSL} - \text{TcLLW}). \quad (49)$$

10. *The effects of the moon's parallax and phases upon the times and heights of the tides.*

The tables given below enable one to approximately take account of the effect of the moon's distance upon the range of tide, and also the variations in time and height due to the relative positions of the sun and moon.

FACTOR EXPRESSING THE EFFECT OF THE MOON'S PARALLAX UPON THE MEAN RANGE OF TIDE. (50)

Time.	Factor q .	Time.	Factor q .	Time.	Factor q .	Time.	Factor q .
After perigean tides.	$d.$ 0 1.17 1 1.16 2 1.15 3 1.13 4 1.09 5 1.06 6 1.02 7 0.98	Before apogean tides.	$d.$ 7 0.99 6 0.96 5 0.93 4 0.90 3 0.88 2 0.87 1 0.86 0 0.86	After apogean tides.	$d.$ 0 0.86 1 0.86 2 0.87 3 0.88 4 0.90 5 0.93 6 0.96 7 0.99	Before perigean tides.	$d.$ 7 0.98 6 1.02 5 1.06 4 1.09 3 1.13 2 1.15 1 1.16 0 1.17

In making use of these tables for prediction purposes, the mean range (Mn) should be first multiplied by the factor q expressing the parallax effect; this corrected range should then be used in ascertaining the variation due to phase in the lunital interval and in obtaining the semirange of tide.

TABLE OF PHASE EFFECTS. (51)

Time.	Increase in lunital intervals.	Increase in semi-range of tide.	Time.	Increase in lunital intervals.	Increase in semi-range of tide.	Date.	Factor p .*
$d. h.$	$m.$	$Sg-Np$ $Mn \times q$	$d. h.$	$m.$	$Sg-Np$ $Mn \times q$		
After spring tides.		$+ .23p(Sg-Np)$	After neap tides.		$- .29p(Sg-Np)$	Jan. 1	0.82
0 00	0		0 00	0		11	0.88
0 06	-5	+ .23	0 06	+13	-.29	21	0.96
0 12	-10	+ .23	0 12	+25	-.28	31	1.04
0 18	-14	+ .22	0 18	+35	-.27	Feb. 10	1.13
1 00	-19	+ .21	1 00	+44	-.25	20	1.20
1 06	-23	+ .20	1 06	+52	-.23	Mar. 2	1.25
1 12	-28	+ .19	1 12	+58	-.21	12	1.27
1 18	-32	+ .18	1 18	+62	-.18	22	1.28
2 00	-37	+ .17	2 00	+65	-.16	Apr. 1	1.26
2 06	-41	+ .15	2 06	+66	-.13	11	1.22
2 12	-44	+ .13	2 12	+67	-.10	21	1.14
2 18	-49	+ .11	2 18	+67	-.08	May 1	1.06
3 00	-52	+ .09	3 00	+66	-.05	11	0.96
3 06	-56	+ .07	3 06	+64	-.02	21	0.87
3 12	-59	+ .04	3 12	+62	.00	31	0.77
3 18	-61	+ .02	3 18	+60	+ .03	June 10	0.71
4 00	-63	-.01	4 00	+57	+ .05	20	0.67
Before spring tides.			Before neap tides.			30	0.68
4 00	-57	+ .05	4 00	+63	-.01	July 10	0.74
3 18	-60	+ .03	3 18	+61	+ .02	20	0.82
3 12	-62	.00	3 12	+59	+ .04	30	0.92
3 06	-64	-.02	3 06	+56	+ .07	Aug. 9	1.01
3 00	-66	-.05	3 00	+52	+ .09	19	1.10
2 18	-67	-.08	2 18	+49	+ .11	29	1.18
2 12	-67	-.10	2 12	+44	+ .13	Sept. 8	1.23
2 06	-66	-.13	2 06	+41	+ .15	18	1.26
2 00	-65	-.16	2 00	+37	+ .17	28	1.26
1 18	-62	-.18	1 18	+32	+ .18	Oct. 8	1.24
1 12	-58	-.21	1 12	+28	+ .19	18	1.20
1 06	-52	-.23	1 06	+23	+ .20	28	1.14
1 00	-44	-.25	1 00	+19	+ .21	Nov. 7	1.06
0 18	-35	-.27	0 18	+14	+ .22	17	0.97
0 12	-25	-.28	0 12	+10	+ .23	27	0.89
0 06	-13	-.29	0 06	+5	+ .23	Dec. 7	0.83
0 00	0	-.29	0 00	0	+ .23	17	0.79
						27	0.80
						Jan. 6	0.85

* The factor p applies to the "increase in the semirange of tide," and not to the "increase in lunital intervals." It is due to the declinations of the sun and moon and to the solar parallax.

In the column headed "Increase in lunital intervals" the negative values are often spoken of as the *priming* and the positive ones as the *lagging* of the tide, § 8.

The *vulgar establishment*, being the interval at "full and change," may be obtained from the mean lunital interval by entering this table as many hours before spring tides as are contained in the age of the phase inequality, § 8, formula (26).

11. *Tidal currents.*

The *velocity (drift)* of a current is the rate at which the fluid particles move horizontally. It is usually expressed in knots, i. e., nautical miles per hour, but sometimes in feet per second. The velocity generally differs for different depths, but its value at the surface may be understood unless otherwise specified. The velocity of propagation of the tidal wave is many times greater than the velocity of the current, and the two must not be confounded.

The *direction (set)* of a current is the direction or point of the compass toward which the fluid particles move.

The movement of the fluid in one direction, usually inland, is styled *flood*, and in the opposite direction, *ebb*. The two are not always distinct, and, even if they are, it is not always possible to know which movement should be taken for the flood and which for the ebb.

Slack water denotes the state of the current when its velocity becomes a minimum.

The effect of the tidal wave in giving rise to currents may be seen in two simple cases:

- (1) Where there is a small tidal basin connected with the sea by a large opening.
- (2) Where there is a large tidal basin connected with the sea by a very small opening.

In the first case the velocity of the current in the opening will have its maximum value when the height of the tide within is changing most rapidly, i. e., at a time about midway between high and low water. The water in the basin keeps at approximately the same level as that of the water outside. Flood corresponds to the rising, and ebb to the falling tide within. E. g. the Golden Gate, Cal.

In the second case the velocity of the current in the opening will have its maximum value when it is high water or low water without; for then there is the greatest head of water for producing motion. Flood begins about three hours after low water, ebb about three hours after high water; that is, slack water occurs at times about midway between the tides.

In an unobstructed wave, the flood velocity is a maximum at about the time of high water, and the ebb velocity becomes a maximum near the time of low water.

In a stationary wave, the slack waters are almost simultaneous with the high and low waters.

In some bodies of water, particularly long channels, such as tidal rivers, the directions of the currents are obviously governed by the trend of the banks; but in broader bodies, especially near the heads of gulfs and bays, the directions taken by the particles of water are not easily explained. It is quite common in such cases to find no true slack water, while the direction of the current shifts continually with the varying phases of the tide.

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INSTRUCTIONS TO MARINERS IN CASE OF SHIPWRECK.*

GENERAL INFORMATION.

Life-saving stations and houses of refuge are located upon the Atlantic and Pacific seaboard of the United States, the Gulf of Mexico, and the Lake coasts.

All life-saving stations on the Atlantic coast from the eastern extremity of the State of Maine to Sullivan Island, South Carolina, are manned annually by crews of experienced surfmen from the 1st of August to the 31st of May following, inclusive. Upon the Pacific coast they are opened and manned the year round.

All life-saving stations are fully supplied with boats, wreck guns, beach apparatus, restoratives, etc.

Houses of refuge are located exclusively upon the Florida coast, where the requirements of relief are widely different from those of any other portion of the seaboard.

Houses of refuge are supplied with boats, provisions, and restoratives, but not manned by crews; a keeper, however, resides in each throughout the year, who, after every storm, is required to make extended excursions along the coast, with a view of ascertaining if any shipwreck has occurred and finding and succoring any persons that may have been cast ashore.

All life-saving stations are provided with the International Code of Signals, and vessels can, by opening communication, be reported; obtain the latitude and longitude of the station, where determined; information as to the weather probabilities in most cases; or, if crippled or disabled, a steam tug or revenue cutter will, if requested, be telegraphed for to the nearest port, where facilities for telegraphing exist.

All services are performed by the life-saving crews without other compensation than their wages from the Government.

Destitute seafarers are provided with food and lodgings at the nearest station by the Government as long as necessarily detained by the circumstances of shipwreck.

The station crews patrol the beach from 2 to 4 miles each side of their stations between sunset and sunrise, and if the weather is foggy the patrol is continued through the day.

Each patrolman carries Coston signals. Upon discovering a vessel standing into danger he ignites one of them, which emits a brilliant red flame of about two minutes' duration, to warn her off, or, should the vessel be ashore, to let her crew know that they are discovered and assistance is at hand.

If the vessel is not discovered by the patrol immediately after striking, rockets or flare-up lights should be burned; or, if the weather be foggy, guns should be fired to attract attention, as the patrolman may be some distance away at the other end of his beat.

Masters are particularly cautioned, if they should be driven ashore anywhere in the neighborhood of the stations, especially on any of the sandy coasts where there is not much danger of vessels breaking up immediately, to remain on board until assistance arrives, and under no circumstances should they attempt to land through the surf in their own boats until the last hope of assistance from the shore has vanished. Often when comparatively smooth at sea a dangerous surf is running which is not perceptible 400 yards offshore, and the surf when viewed from a vessel never appears as dangerous as it is. Many lives have unnecessarily been lost by the crews of stranded vessels being thus deceived and attempting to land in the ship's boats.

The difficulties of rescue by operations from the shore are greatly increased in cases where the anchors are let go after entering the breakers, as is frequently done, and the chances of saving life correspondingly lessened.

INSTRUCTIONS.

RESCUE WITH THE LIFEBOAT OR SURFBOAT.

The patrolman, after discovering your vessel ashore and burning a Coston signal, hastens to his station for assistance. If the use of a boat is practicable, either the large lifeboat is launched from its ways in the station and proceeds to the wreck by water, or the lighter surfboat is hauled overland to a point opposite the wreck and launched, as circumstances may require.

Upon the boat reaching your vessel, the directions and orders of the keeper (who always commands and steers the boat) should be implicitly obeyed. Any headlong rushing and crowding should be prevented, and the captain of the vessel should remain on board, to preserve order, until every other person has left.

Women, children, helpless persons, and passengers should be passed into the boat first.

Goods or baggage will positively not be taken into the boat until all are landed. If any be passed in against the keeper's remonstrance, he is fully authorized to throw the same overboard.

* This account is reproduced from the publications of the United States Life-Saving Service.

RESCUE WITH THE BREECHES BUOY OR LIFE CAR.

Should it be inexpedient to use either the lifeboat or surfboat, recourse will be had to the wreck gun and beach apparatus for the rescue by the breeches buoy or the life car.

A shot with a small line attached will be fired across your vessel.

Get hold of the line as soon as possible and haul on board until you get a tail block with a whip or endless line rove through it. This tail block should be hauled on board as quickly as possible to prevent the whip drifting off with the set or fouling with wreckage, etc. Therefore, if you have been driven into the rigging,

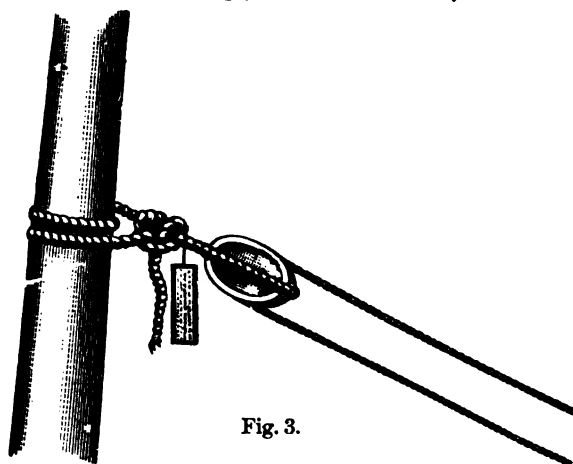


Fig. 3.

where but one or two men can work to advantage, cut the shot line and run it through some available block, such as the throat or peak halyards block, or any block which will afford a clear lead, or even between the ratlines, that as many as possible may assist in hauling.

Attached to the tail block will be a tally board, with the following directions in English on one side and French on the other:

"Make the tail of the block fast to the lower mast, well up. If the masts are gone, then to the best place you can find. Cast off shot line, see that the rope in the block runs free, and show signal to the shore."

The above instructions being complied with, the result will be as shown in fig. 3 above.

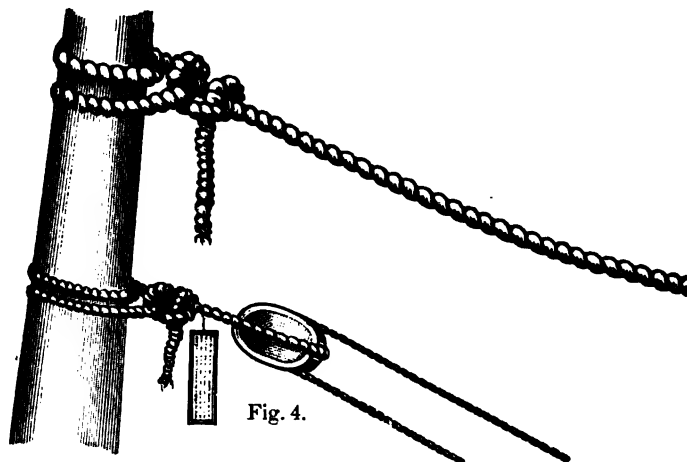


Fig. 4.

As soon as your signal is seen, a 3-inch hawser will be bent on to the whip and hauled off to your ship by the life-saving crew.

If circumstances will admit, you can assist the life-saving crew by manning that part of the whip to which the hawser is bent and hauling with them.

When the end of the hawser is got on board, a tally board will be found attached, bearing the following directions in English on one side and French on the other:

"Make this hawser fast about 2 feet above the tail block; see all clear and that the rope in the block runs free, and show signal to the shore."

These instructions being obeyed, the result will be as shown in fig. 4.

Take particular care that there are no turns of the whip line around the hawser. To prevent this, take the end of the hawser UP BETWEEN the parts of the whip before making it fast.

When the hawser is made fast, the whip cast off from the hawser, and your signal seen by the life-saving crew, they will haul the hawser taut and by means of the whip will haul off to your ship a breeches buoy suspended from a traveler block, or a life car from rings, running on the hawser.

Fig. 5, below, represents the apparatus rigged, with the breeches buoy hauled off to the ship.

If the breeches buoy be sent, let one man immediately get into it, thrusting his legs through the breeches. If the life car, remove the hatch, place as many persons into it as it will hold (four to six), and secure the hatch on the outside by the hatch bar and hook, signal as before, and the buoy or car will be hauled ashore. This will be repeated until all are landed. On the last trip of the life car the hatch must be secured by the inside hatch bar.

In many instances two men can be landed in the breeches buoy at the same time by each putting a leg through a leg of the breeches and holding on to the lifts of the buoy.

Children, when brought ashore by the buoy, should be in the arms of older persons or securely lashed to the buoy. Women and children should be landed first.

In signaling as directed in the foregoing instructions, if in the daytime, let one man separate himself from the rest and swing his hat, a handkerchief, or his hand; if at night, the showing of a light and concealing it once or twice, will be understood; and like signals will be made from the shore.

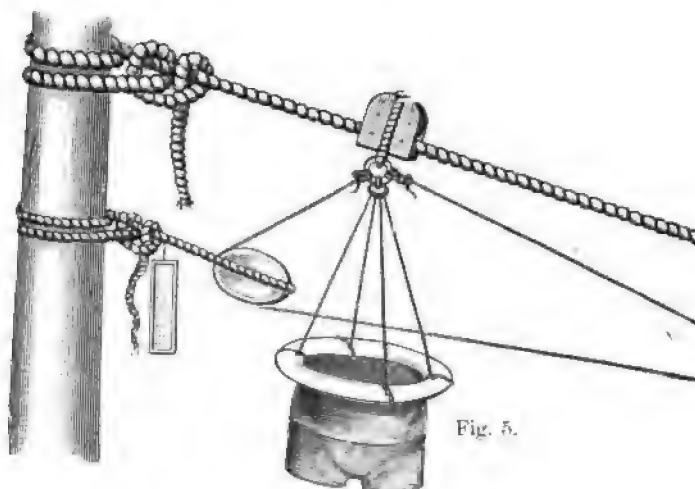


Fig. 5.

Circumstances may arise, owing to the strength of the current or set, or the danger of the wreck breaking up immediately, when it would be impossible to send off the hawser. In such a case a breeches buoy or life car will be hauled off instead by the whip, or sent off to you by the shot line, and you will be hauled ashore through the surf.

If your vessel is stranded during the night and discovered by the patrolman, which you will know by his burning a brilliant red light, keep a sharp lookout for signs of the arrival of the life-saving crew abreast of your vessel.

From one to four hours may intervene between the burning of the light and their arrival, as the patrolman will have to return to his station, perhaps 3 or 4 miles distant, and the life-saving crew draw the apparatus or surfboat through the sand or over bad roads to where your vessel is stranded.

Lights on the beach will indicate their arrival, and the sound of cannon firing from the shore may be taken as evidence that a line has been fired across your vessel. Therefore, upon hearing the cannon, make strict search aloft, fore and aft, for the shot line, for it is almost certain to be there. Though the movements of the life-saving crew may not be perceptible to you, owing to the darkness, your ship will be a good mark for the men experienced in the use of the wreck gun, and the first shot seldom fails.

SIGNALS.

The following signals, approved by the International Marine Conference convened at Washington in October, 1889, have been adopted by the Life-Saving Service, and will be used and recognized by the officers and employees as occasion may require:

“Upon the discovery of a wreck by night, the life-saving force will burn a red pyrotechnic light or a red rocket to signify—‘You are seen; assistance will be given as soon as possible.’

"A red flag waved on shore by day, or a red light, red rocket, or red Roman candle displayed by night, will signify—'Haul away.'

"A white flag waved on shore by day, or a white light slowly swung back and forth, or a white rocket, or white Roman candle fired at night, will signify—'Slack away.'

"Two flags, a white and a red, waved at the same time on shore by day, or two lights, a white and a red, slowly swung at the same time, or a blue pyrotechnic light burned by night, will signify—'Do not attempt to land in your own boats. It is impossible.'

"A man on shore beckoning by day, or two torches burning near together by night, will signify—'This is the best place to land.'

"Any of these signals may be answered from the vessel as follows: In the daytime, by waving a flag, a handkerchief, a hat, or even the hand; at night, by firing a rocket, a blue light, or a gun, or by showing a light over the ship's gunwale for a short time, and then concealing it."

RECAPITULATION.

Remain by the wreck until assistance arrives from the shore, unless your vessel shows signs of immediately breaking up.

If not discovered immediately by the patrol, burn rockets, flare-up or other lights; or, if the weather be foggy, fire guns.

Take particular care that there are no turns of the whip line around the hawser before making the hawser fast.

Send the women, children, helpless persons, and passengers ashore first.

Make yourself thoroughly familiar with these instructions, and remember that on your coolness and strict attention to them will greatly depend the chances of success in bringing you and your people safely to land.

*Restoring the apparently drowned.**

NOTE.—These directions differ from those given in the last revision of the Regulations by the addition of means for securing deeper inspiration. The method heretofore published, known as the Howard, or Direct Method, has been productive of excellent results in the practice of the Service, and is retained here. It is, however, here arranged for practice in combination with the Sylvester method, the latter producing deeper inspiration than any other known method, while the former effects the most complete expiration. The



Fig. 6.

combination, therefore, tends to produce the most rapid oxygenation of the blood—the real object to be gained. The combination is prepared primarily for the use of life-saving crews where assistants are at hand. A modification of Rule III, however, is published as a guide in cases where no assistants are at hand and one person is compelled to act alone.

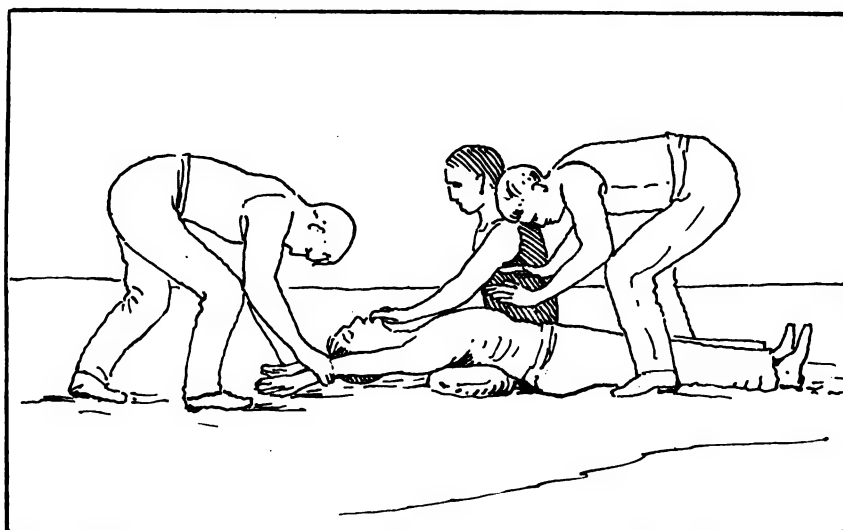


Fig. 7.

RULE I. Arouse the patient.—Do not move the patient unless in danger of freezing; instantly expose the face to the air, toward the wind if there be any; wipe dry the mouth and nostrils; rip the clothing so as to expose the chest and waist; give two or three quick, smarting slaps on the chest with the open hand.

* From the directions of the United States Life-Saving Service.

If the patient does not revive proceed immediately as follows:

RULE II. *To expel water from the stomach and chest* (see fig. 6).—Separate the jaws and keep them apart by placing between the teeth a cork or small bit of wood; turn the patient on his face, a large bundle of tightly rolled clothing being placed beneath the stomach; press heavily on the back over it for half a minute, or as long as fluids flow freely from the mouth.

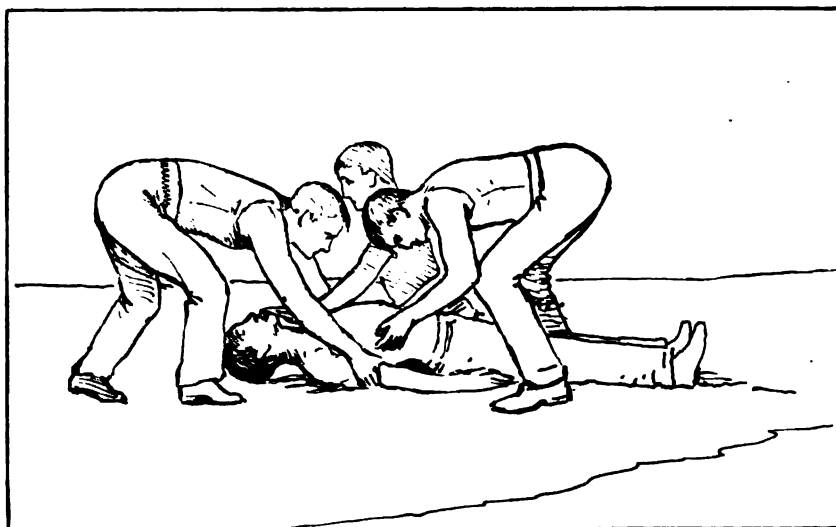


Fig. 8.

RULE III. *To produce breathing* (see figs. 7 and 8).—Clear the mouth and throat of mucus by introducing into the throat the corner of a handkerchief wrapped closely around the forefinger; turn the patient on the back, the roll of clothing being so placed as to raise the pit of the stomach above the level of the rest of the body. Let an assistant with a handkerchief or piece of dry cloth draw the tip of the tongue out of one corner of the mouth (which prevents the tongue from falling back and choking the entrance to the windpipe), and

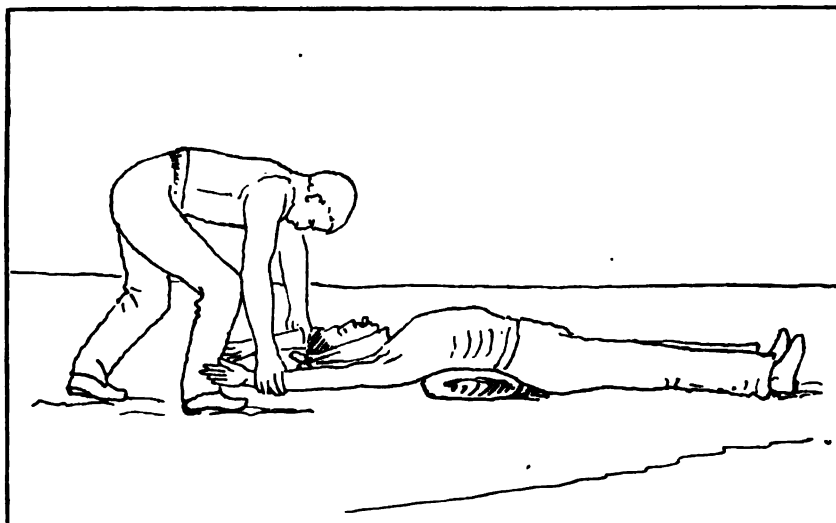


Fig. 9.

keep it projecting a little beyond the lips. Let another assistant grasp the arms just below the elbows and draw them steadily upward by the sides of the patient's head to the ground, the hands nearly meeting (which enlarges the capacity of the chest and induces inspiration). (Fig. 7.) While this is being done let a third assistant take position astride the patient's hips with his elbows resting upon his own knees, his hands extended ready for action. Next, let the assistant standing at the head turn down the patient's arms to

the sides of the body, the assistant holding the tongue, changing hands if necessary* to let the arms pass. Just before the patient's hands reach the ground the man astride the body will grasp the body with his hands, the balls of the thumbs resting on either side of the pit of the stomach, the fingers falling into the grooves between the short ribs. Now, using his knees as a pivot, he will at the moment the patient's hands touch the ground throw (not too suddenly) all his weight forward on his hands, and at the same time squeeze the waist between them as if he wished to force anything in the chest upward out of the mouth; he will deepen the pressure while he slowly counts one, two, three, four (about five seconds), then suddenly let go with a final push, which will spring him back to his first position.† This completes expiration. (Fig. 8.).

At the instant of his letting go, the man at the patient's head will again draw the arms steadily upward to the sides of the patient's head as before (the assistant holding the tongue again, changing hands to let the arms pass if necessary), holding them there while he slowly counts one, two, three, four (about five seconds).

Repeat these movements deliberately and perseveringly twelve to fifteen times in every minute—thus imitating the natural motions of breathing.

If natural breathing be not restored after a trial of the bellows movement for the space of about four minutes, then turn the patient a second time on the stomach, as directed in Rule II, rolling the body in the opposite direction from that which it was first turned, for the purpose of freeing the air passage from any remaining water. Continue the artificial respiration from one to four hours, or until the patient breathes, according to Rule III; and for a while, after the appearance of returning life, carefully aid the first short gasps

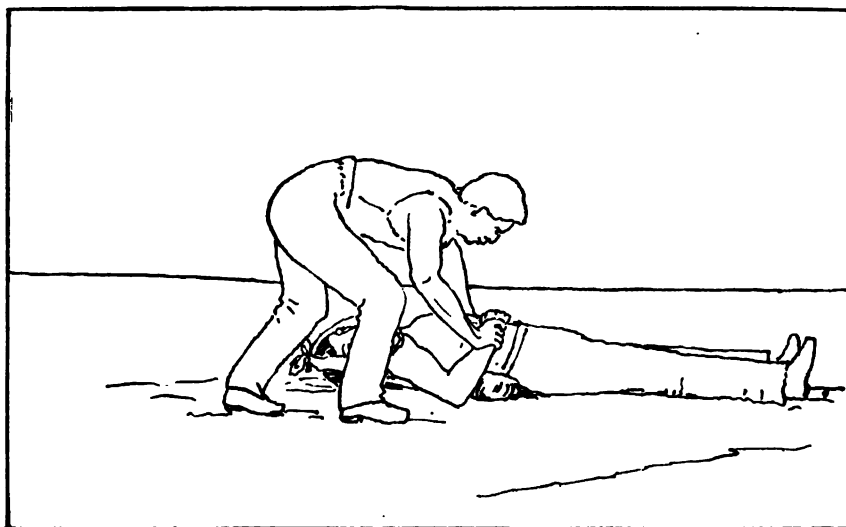


Fig. 10.

until deepened into full breaths. Continue the drying and rubbing, which should have been unceasingly practiced from the beginning by assistants, taking care not to interfere with the means employed to produce breathing. Thus the limbs of the patient should be rubbed, always in an upward direction toward the body, with firm-grasping pressure and energy, using the bare hands, dry flannels, or handkerchiefs, and continuing the friction under the blankets or over the dry clothing. The warmth of the body can also be promoted by the application of hot flannels to the stomach and armpits, bottles or bladders of hot water, heated bricks, etc., to the limbs and soles of the feet.

RULE IV. AFTER-TREATMENT.—*Externally:* As soon as breathing is established let the patient be stripped of all wet clothing, wrapped in blankets only, put to bed comfortably warm, but with a free circulation of fresh air, and left to perfect rest. *Internally:* Give whisky or brandy and hot water in doses of a teaspoonful to a tablespoonful, according to the weight of the patient, or other stimulant at hand, every ten or fifteen minutes for the first hour, and as often thereafter as may seem expedient. *Later manifestations:* After reaction is fully established, there is great danger of congestion of the lungs, and if perfect rest is not maintained for at least forty-eight hours it sometimes occurs that the patient is seized with great difficulty of breathing, and death is liable to follow unless immediate relief is afforded. In such cases apply a large mustard plaster over the breast. If the patient gasps for breath before the mustard takes effect assist the breathing by carefully repeating the artificial respiration.

* Changing hands will be found unnecessary after some practice; the tongue, however, must not be released.

† A child or very delicate patient must of course be more gently handled.

MODIFICATION OF RULE III.

[To be used after Rules I and II in case no assistance is at hand.]

To produce respiration.—If no assistance is at hand, and one person must work alone, place the patient on his back with the shoulders slightly raised on a folded article of clothing; draw forward the tongue and keep it projecting just beyond the lips; if the lower jaw be lifted the teeth may be made to hold the tongue in place; it may be necessary to retain the tongue by passing a handkerchief under the chin and tying it over the head.

Grasp the arms just below the elbows and draw them steadily upward by the sides of the patient's head to the ground, the hands nearly meeting. (See fig. 9.)

Next lower the arms to the sides and press firmly downward and inward on the sides and front of the chest over the lower ribs, drawing toward the patient's head. (See fig. 10.)

Repeat these movements twelve to fifteen times every minute, etc.

Instructions for saving drowning persons by swimming to their relief.

When you approach a person drowning in the water assure him, with a loud and firm voice, that he is safe.

Before jumping in to save him, divest yourself as far and as quickly as possible of all clothes; tear them off if necessary; but if there is not time, loose at all events the foot of your drawers, if they are tied, as, if you do not do so, they fill with water and drag you.

On swimming to a person in the sea, if he be struggling do not seize him then, but keep off for a few seconds till he gets quiet, for it is sheer madness to take hold of a man when he is struggling in the water, and if you do you run a great risk.

Then get close to him and take fast hold of the hair of his head, turn him as quickly as possible onto his back, give him a sudden pull, and this will cause him to float, then throw yourself on your back also and swim for the shore, both hands having hold of his hair, you on your back and he also on his, and of course his back to your stomach. In this way you will get sooner and safer ashore than by any other means, and you can easily thus swim with two or three persons; the writer has even, as an experiment, done it with four, and gone with them 40 or 50 yards in the sea. One great advantage of this method is that it enables you to keep your head up and also to hold the person's head up you are trying to save. It is of primary importance that you take fast hold of the hair and throw both the person and yourself on your backs. After many experiments, it is usually found preferable to all other methods. You can in this manner float nearly as long as you please, or until a boat or other help can be obtained.

It is believed there is no such thing as a *death grasp*; at least it is very unusual to witness it. As soon as a drowning man begins to get feeble and to lose his recollection, he gradually slackens his hold until he quits it altogether. No apprehension need, therefore, be felt on that head when attempting to rescue a drowning person.

After a person has sunk to the bottom, if the water be smooth, the exact position where the body lies may be known by the air bubbles, which will occasionally rise to the surface, allowance being of course made for the motion of the water, if in a tideway or stream, which will have carried the bubbles out of a perpendicular course in rising to the surface. Oftentimes a body may be regained from the bottom, before too late for recovery, by diving for it in the direction indicated by these bubbles.

On rescuing a person by diving to the bottom, the hair of the head should be seized by one hand only, and the other used in conjunction with the feet in raising yourself and the drowning person to the surface.

If in the sea, it may sometimes be a great error to try to get to land. If there be a strong "outsetting" tide, and you are swimming either by yourself or having hold of a person who can not swim, then get on your back and float till help comes. Many a man exhausts himself by stemming the billows for the shore on a back-going tide, and sinks in the effort, when, if he had floated, a boat or other aid might have been obtained.

These instructions apply alike to all circumstances, whether as regards the roughest sea or smooth water.

Treatment of frostbites.

[As recommended by the Surgeon-General of Public Health and Marine-Hospital Service.]

Do not bring the patient to the fire, nor bathe the parts in warm water.

If snow be on the ground, or accessible, take a woolen cloth in the hand, place a handful of snow upon it, and gently rub the frozen part until the natural color is restored. In case snow is not at hand, bathe the part gently with a woolen cloth in the coldest *fresh* water obtainable—ice water if practicable.

In case the frostbite is old, and the skin is turned black or begun to scale off, do not attempt to restore its vitality by friction, but apply carron oil on a little cotton; after which wrap the part loosely in flannel.

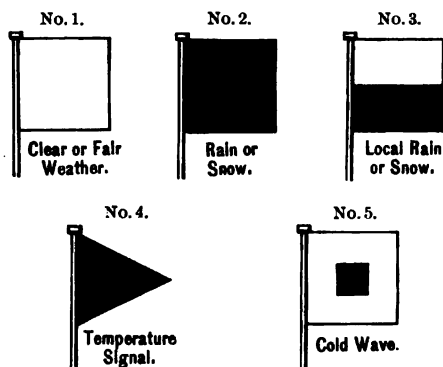
In all cases, as soon as the vitality has been restored, apply the carron oil, prepared according to Service formula.* As it contains opium, do not administer morphia or other opiate.

In the case of a person apparently dead from exposure to cold, friction should be applied to the body and the lower extremities, and artificial respiration practiced as in cases of the apparently drowned. As soon as the circulation appears to be restored, administer spirits and water at intervals of fifteen or twenty minutes until the flesh feels natural. Even if no signs of life appear, friction should be kept up for a long period, as instances are on record of recovery after several hours of suspended animation.

*The Service formula for *carron oil* is to mix 12 parts olive oil, or raw linseed oil, with 12 parts of lime-water, and 1 part tincture of opium.

STORM, WIND-DIRECTION, AND INFORMATION SIGNALS OF THE UNITED STATES WEATHER BUREAU.

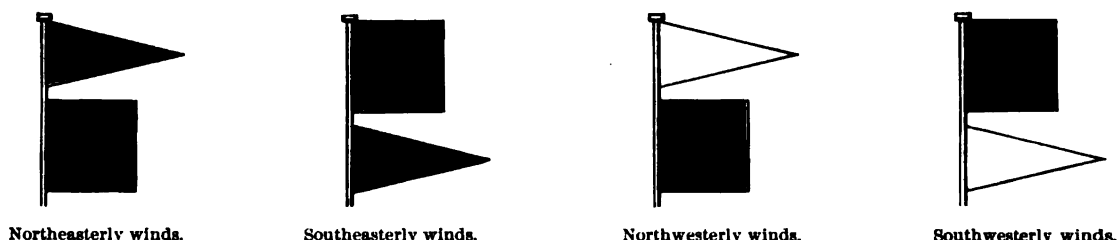
WEATHER AND TEMPERATURE SIGNALS, AND INTERPRETATION OF DISPLAYS.



No. 1, alone, indicates fair weather, stationary temperature.
 No. 2, alone, indicates rain or snow, stationary temperature.
 No. 3, alone, indicates local rain or snow, stationary temperature.
 No. 1, with No. 4 above it, indicates fair weather, warmer.
 No. 1, with No. 4 below it, indicates fair weather, colder.
 No. 2, with No. 4 above it, indicates rain or snow, warmer.
 No. 2, with No. 4 below it, indicates rain or snow, colder.
 No. 3, with No. 4 above it, indicates local rain or snow, warmer.
 No. 3, with No. 4 below it, indicates local rain or snow, colder.
 No. 1, with No. 5, indicates fair weather, cold wave.
 No. 2, with No. 5, indicates wet weather, cold wave.

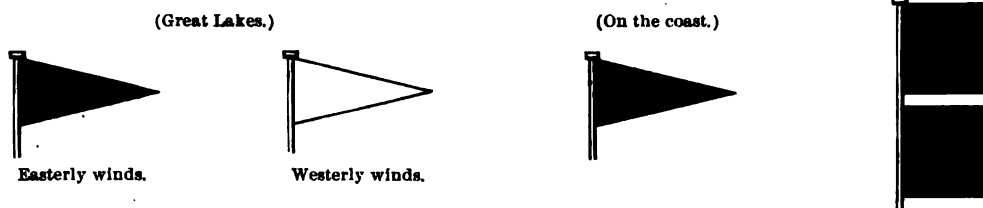
WIND SIGNALS FOR THE BENEFIT OF MARINE INTERESTS.

STORM SIGNALS.



INFORMATION SIGNALS.

HURRICANE SIGNAL.



EXPLANATION.

STORM SIGNAL.—A red flag with a black center indicates that a storm of marked violence is expected.

The pennants displayed with the flags indicate the direction of the wind: Red, easterly (from northeast to south); white, westerly (from southwest to north). The pennant above the flag indicates that the wind is expected to blow from the northerly quadrants; below, from southerly quadrants.

By night a red light indicates easterly winds, and a white light above a red light westerly winds.

INFORMATION SIGNAL.—Red or white pennant displayed alone. When displayed at stations on the Great Lakes, indicates that winds are expected which may prove dangerous to tows and smaller classes of vessels, the red pennant indicating easterly, and the white pennant westerly, winds.

When displayed at stations on the Atlantic, Pacific, and Gulf coasts, indicates that the local observer has received information from the Central Office of a storm covering a limited area, dangerous only for vessels about to sail to certain points, and serves as a notification to shipmasters that information will be given them upon application to the local observer. Only the red pennant is displayed on the coasts.

HURRICANE SIGNAL.—Two red flags with black centers, displayed one above the other, indicate the expected approach of tropical hurricanes, and also of those extremely severe and dangerous storms which occasionally move across the Lakes and north Atlantic coast.

No night information of hurricane signals is displayed.

EXPLANATION OF TABLES.

In attempting to extend the tide tables to all waters, the Survey has utilized information from a variety of foreign sources. The chief of these are: The Proceedings of the Royal Society of London, 1885, 1889, 1902; Reports on the Operations of the Survey of India Department; the British, German, French, and other tide tables; observations and results furnished to the Survey through our foreign consulates; observations loaned on special requests, and voluntary contributions from several hydrographic surveys. See acknowledgments in Preface.

Table 1, pages 52-332.—This table gives full predictions, that is, tabulated high and low waters for each day of the year, for seventy stations. They have been made by means of the Ferrel tide-predicting machine described in Appendix 10 of the Superintendent's Report for 1883. The harmonic constants underlying these predictions are given in Table 4, where will also be found the lengths of the series of observations analyzed.

A note at the bottom of each page shows the kind of time used and the plane from which the heights are reckoned.

For convenience, the phases of the moon, together with the times of its extreme distances and declinations, are given in connection with the calendar of each station. More exact values will be found in Tables 7 and 8.

Table 2, pages 333-337.—The first three pages of this table afford a ready means of finding the approximate height of the tide at any intermediate time between high and low water for those ports on the Atlantic coast of the United States for which full predictions are given. This table may be extended to the subordinate stations (given in Table 3) referred to these principal stations by multiplying its values by the ratio of mean ranges, provided the duration of rise or fall is sensibly the same at the subordinate as at the principal station. Tables 2A and 2B have been so designated in order to avoid changing the number of the tables which follow. Table 2A is an auxiliary table by means of which Table 2B may be adapted to almost any kind of tide, whether semidiurnal or diurnal. It is believed that these tables will be found more satisfactory than any general tables which have ever been published heretofore for finding the height between the times of high and low water.

Table 3, pages 338-453.—This table gives the following items:

First. A list of about 3,000 tidal stations arranged in geographic order; the names of the seventy stations of Table 1 are printed in small capitals.

Second. Their approximate geographic position. If we put S and L for the west longitudes in time of the standard time and local meridians, respectively, we have the following:

$$\text{The correction to change standard to local time} = S - L. \quad (52)$$

$$\text{The correction to change local to standard time} = L - S. \quad (53)$$

For east longitude reverse the signs in equations (52) and (53).

Third. The standard or principal port to which they are referred.

Fourth. The differences and ratios to be applied to the predicted times and heights of the principal port, Table 1, for obtaining the tides at any given subordinate port. The tides so obtained are already expressed in the kind of time given in connection with these differences.

The time differences are computed as follows:

$$\text{Diff. for time of HW} = (\text{HWI})_{..} - (\text{HWI})_i + S_i - S_{..} + 1.035 (L_{..} - L_i) + n (12^h 25^m). \quad (54)$$

$$\text{Diff. for time of LW} = (\text{LWI})_{..} - (\text{LWI})_i + S_i - S_{..} + 1.035 (L_{..} - L_i) + n (12^h 25^m). \quad (55)$$

L = the west longitude of the station in time.

S = the west longitude of the time meridian used.

$n=0$ when the corresponding tropic intervals at both stations are marked with the same letter.

$n=\pm 1$ when the corresponding tropic intervals at the two stations are marked with different letters, the sign giving the smaller result being usually preferred.

$n=\pm 2$ when the tide is chiefly diurnal, and it is desired to change the sign of the direct difference; also when the two stations are situated upon opposite sides of the day-line in the Pacific Ocean, and it is desired to refer the tide to the same nominal day at both stations.

Single subscripts refer to the principal station, and double subscripts to the subordinate station.

For east longitude reverse the signs of S and L .

Sometimes when the corresponding height inequalities are small the markings of the tropic intervals at the two stations are ignored in computing the time difference. For stations where the tide is chiefly diurnal the tropic intervals are compared to get the time differences. If the Russian calendar is desired for Siberian or other stations, subtract thirteen days from the dates given by application of the differences.

If the subordinate station is properly referred, the times of high and low water ought to be correctly given by means of the tidal differences, and in the kind of time indicated in these columns, without regard to the time used for the standard port.

The height differences are computed as follows:

$$\text{Difference for height of HW} = [D_{..} + \frac{1}{2} (\text{Mn})_{..}] - [D_i + \frac{1}{2} (\text{Mn})_i] \quad (56)$$

$$\text{Difference for height of LW} = [D_{..} - \frac{1}{2} (\text{Mn})_{..}] - [D_i - \frac{1}{2} (\text{Mn})_i] \quad (57)$$

where D_i and $D_{..}$ are the depressions below mean sea level of the planes of reference at the standard and subordinate ports, respectively, as given in Table 3.

The heights of the tides are referred to one of three planes of reference: Mean low water, mean lower low water, and mean low water springs, § 9, formulas (44) to (49).

The differences may be used without material error only when the ratio of ranges is not far from unity. The heights thus obtained are reckoned from the plane of reference indicated in the difference columns, no matter what plane has been used for the predictions at the standard port. The approximate depression of this plane below mean sea level is given on the opposite page, in the third column from the last.

In no case should the height differences be used, except for very rough results, where the ratio of ranges differs as much as 25 per cent from unity. A much better estimate of the heights at the subordinate station can always be obtained by using the formula

$$h_{..} = r h_i + D_{..} - r D_i \quad (58)$$

in which D_i and $D_{..}$ are the same as before, h_i and $h_{..}$ are the heights of the tide at the standard and the subordinate ports, respectively, and r is the ratio of ranges. When both stations are referred to mean low water or to mean low water springs, $D_{..} - r D_i$ may be neglected, and the formula becomes $h_{..} = r h_i$. (59)

Fifth. Lunitidal intervals, mean and tropic. See introduction, §§ 1, 8, 9, and 10. The tropic lunitidal intervals marked a are to be added to the time of the moon's upper transit for north declination, and to the lower transit for south declination of the moon; those intervals marked b are to be added to the time of the moon's upper transit for south declination, and to the lower transit for north declination of the moon. It is to be noted that the values given

are for tropic higher high and lower low water, and not for the tropic lower high and higher low water. To obtain such an interval approximately, change the letters a and b and find an interval as much greater than the mean interval as the given tropic interval is less. See formulas (32) and (33).

Sixth. Ranges of tide: Mean, spring, neap, and great tropic. See introduction, §§ 8, 9, and 10. In some localities the tide is chiefly diurnal—that is, usually only one high and one low water occur in twenty-four hours; for such places the columns for mean intervals and ranges are either left vacant, or else the given values have been inclosed in brackets. The bracketed values are for the semidiurnal part of the tide, and generally occur in nature only for a day or two while the moon is near the equator.

Seventh. Tropic diurnal inequalities in height. See introduction, § 8.

Eighth. Tropic range and interval of the diurnal portion of the tide. The interval is reckoned from an upper north or a lower south transit. It is hoped that the interval column, now largely vacant, may eventually be filled out, thus enabling one to trace the progress of the diurnal wave over the earth's surface.

Ninth. The position of the plane of predictions and of the tropic lower low water with respect to mean sea level. The former is of use in comparisons between observations and the predictions which are obtained by applying the differences for heights, as the local mean sea level can be approximately determined from a few readings of the tide staff. The latter, in connection with the data given in the other columns, enables one to construct a type curve for the locality similar to that given in paragraph 8.

Tenth. The variation of the compass.

Items here numbered five to nine (i. e., the right-hand page of Table 3) are intended for such nonharmonic quantities as best describe the tide, showing its character, magnitude, relation to the moon's transits and to mean sea level. See Fig. 2, § 8 in introduction. The tidal differences and ratios are dependent upon these quantities.

This table is at present very imperfect, owing to a want of properly distributed observations upon which to base conclusions and to a want of time in which to utilize the observations already at hand. Improved values will be substituted from year to year wherever the present ones may prove to be erroneous, and all persons are urged to send information for correcting these Tide Tables to the Superintendent, Coast and Geodetic Survey, Washington, D. C., U. S. A.

Table 4, pages 454-457.—This table gives the amplitudes and epochs of the harmonic constants used in making the predictions for the principal tidal stations, together with the lengths of the series of observations used in their determination and the sources from which they were obtained.

Table 5, pages 458-459.—This table gives the variations in mean sea level due to the annual and semiannual components for such of the ports for which full predictions are given as our information permits. This table gives the value of

$$S_a \cos (h - S_a^\circ) + S_{sa} \cos (2h - S_{sa}^\circ) \quad (60)$$

or the height of the mean sea level at any time above the mean sea level for the year; h is the mean longitude of the sun $= (\frac{73}{3})^\circ \times \text{day of year} - 80^\circ$; S_a , S_a° are the amplitude and epoch of the annual component, and S_{sa} , S_{sa}° the same for the semiannual component, the values of which are given in Table 4.

The heights in these Tide Tables have been reckoned from some mean plane which is regarded as fixed throughout the year, but the changes in surface level due to season of the year arising from meteorological causes are given in Table 5 for the first and sixteenth of each month. For instance, at St. Johns, Newfoundland, from November to February the sea is above its mean level, and from April to September it is below its mean for the whole year.

Table 6, pages 460-461, gives the Greenwich mean civil time of the transit of the moon across the meridian of Greenwich, together with the equation of time for Greenwich apparent noon.

To adapt this table to the local time of another meridian, *add* 2.1 minutes (or more accurately, the tabular hourly difference) for each hour or 15° of *west* longitude, and *subtract* the same for *east* longitude; that is, Gr. time transit $\pm L \times \text{tab. diff.}$ (or approx. $\pm L \times 2.1 \text{ min.}$) = Local time transit. (61)

The upper sign to be used for *west* longitude, and the lower sign for *east* longitude. This result may be changed to standard time by (53), or we may pass directly from Greenwich to standard time, thus:

Gr. time transit + 60 (1.035 $L - S$) = Standard time transit, where L and S are the west longitudes in time of the local meridian and of the time meridian, respectively. The expression 60 (1.035 $L - S$) gives the correction to the Greenwich transits in minutes of time. (62)

Tables 7 and 8, page 462, give the Greenwich mean civil times of the moon's phases, extreme distances, and declinations. To adapt these tables to any other meridian than that of Greenwich, *subtract* the longitude in time when it is *west* and *add* it when *east*. To express the result in standard time, S , subtract S hours from the tabular values.

Table 9, pages 463-496.—This table gives the direction and velocity of the current at certain stations on the Atlantic coast of the United States for three hours before and three hours after high and low water. Current diagrams have been prepared in the Tidal Division of this Office, showing the currents on Georges Bank, in Boston Harbor, Nantucket and Vineyard Sounds, New York Harbor, Delaware Bay, and Chesapeake Bay. They have been constructed upon a plan devised jointly by Lieut. E. H. Tillman, U. S. N., Assistant, Coast and Geodetic Survey, and Mr. John Ross, Nautical Expert, of the same Survey. The predicted times of every slack water in the year are given for Seymour Narrows, B. C., and Sergius Narrows, Alaska. Some brief notes are also added in regard to the times of slack current at a few other places on the Pacific coast. See examples 7-12, pages 47-49.

Table 10, pages 497-517.—This table gives the mean local civil time of the rising and setting of the sun's *upper limb* for every fifth day of the year, and practically for each degree of latitude from the equator to either pole. The observer's eye is supposed to be 15 feet above the sea level or above the plane of land. The table was computed by applying the equation of time to the hour angle given by the formula

$$\cos t = \frac{\cos \zeta - \sin \varphi \sin \delta}{\cos \varphi \cos \delta} = \cos \zeta \sec \varphi \sec \delta - \tan \varphi \tan \delta, \quad (63)$$

in which

t = the hour angle of the sun;

φ = the latitude of the station (+ if north, - if south);

δ = the sun's declination (+ if north, - if south);

ζ = the sun's zenith distance = $90^\circ 56' 09'' = 90^\circ + r + s - \pi + d$,

where

r = the refraction in the horizon = $36' 29''$

s = the sun's semidiameter = $16 \ 01$

π = the sun's horizontal parallax = $0 \ 09$

d = the dip of the horizon for a height of 15 feet = $3 \ 48$

The particular values of the declination used were obtained in the following way: A mean of the sun's declination at Greenwich apparent noon for the same dates between March 1, 1901, and March 1, 1905, was taken for every fifth day; also a mean value for the variation in declination for one hour was found in the same way. From these quantities a

mean value of the declination for six hours before and six hours after Greenwich apparent noon was found for each date. The former were used as the values of the declination for computing the times of sunrise, and the latter for computing the times of sunset. A mean value for the equation of time was found similarly for the same dates and applied to the values obtained by the formula.

The times of sunrise and sunset are exact for the given declinations. If accuracy is desired, enter the table with the declination as an argument, interpolating when necessary. A table of this kind, using dates as an argument, will not apply equally well to all years, but the "Approximate date" of these tables will rarely be a whole day too early or too late. Hence, it will usually suffice to enter the table with the date as an argument, thus avoiding the necessity of ascertaining the sun's declination. The error resulting from using the approximate date as the true one varies with the season of the year, for near the solstices it will be practically nothing for all ordinary latitudes, and near the equinoxes it may in extreme cases be as much as two minutes in latitude 50° .

The critical declinations for failure to rise or set were obtained by the following formulas:

$$\text{Failure to rise when } \delta = \mp 90^\circ 56' 09'' + \varphi \quad (64)$$

$$\text{Failure to set when } \delta = \pm 89^\circ 03' 51'' - \varphi \quad (65)$$

the upper sign being used for north latitudes and the lower for south.

Whenever the sunlight exceeds twenty-four hours the limiting dates are given between which any portion of the sun, however small, remains visible, and the corresponding dates are also given whenever the sun remains entirely invisible for more than twenty-four hours. The dates were obtained by means of the mean values of the declination and are therefore only approximate.

The duration of sunlight may be found by adding 12^h to the time of setting and subtracting the time of rising from the sum. The difference in the duration of sunlight for the forenoon and afternoon of the same day, which sometimes amounts to more than half an hour, is twice the equation of time, slightly modified by the sun's motion in declination between rising and setting.

The sun's zenith distance, $\zeta = 90^\circ 56' 09''$, was taken as constant, for the variation of refraction in the horizon is the only element which might produce a sensible change in the time of rising or setting, and it is impossible to estimate these variations in advance. Fortunately, however, there will rarely be any material error in the table from this source, for even under the most extreme changes in atmospheric temperature and pressure, refraction in the horizon can not vary more than about $8'$ on either side of its mean value, which at the time of the local summer solstice, when its greatest possible effect is produced, would make only a few seconds' difference in time of rising or setting near the equator, the correction becoming a whole minute in latitude 48° , two minutes in latitude 61° , and in higher latitudes the effect rapidly increases as the pole is approached. Hence, as the usual variations in refraction are much less than the above, it is believed that the table will generally be found correct to the nearest minute for all usual latitudes, but may occasionally be out from three to five minutes or more in very high latitudes.

Table 11, pages 518-519.—This table gives the mean local civil time of the beginning of morning astronomical twilight and of the end of evening astronomical twilight for various latitudes and declinations. Astronomical twilight is assumed to begin or end when the sun's center is 18° below the rational horizon, at which time total darkness, so far as the sun is concerned, ends or begins. This value of 18° for the sun's center below the horizon, which is generally accepted as the limit of astronomical twilight, was determined from observations made in rather high latitudes, and is probably somewhat too large for low latitudes,

where twilight may begin later in the morning and end sooner in the evening than given by this table. The table is similar in arrangement to Table 10, but less extended, and was computed in the same manner, taking ζ as 108° . It is exact for the given declinations, but applies only approximately to the dates given. In so indefinite a matter as twilight interpolation by estimation will usually be sufficiently accurate, without the trouble of computing proportional parts.

The duration of twilight for any given day may be found by subtracting the time of beginning of morning twilight from the time of sunrise or by subtracting the time of sunset from the time of end of evening twilight. In latitudes where there is an interval of darkness each twenty-four hours, the longest twilight occurs in June north of the equator and in December south of the equator, about the time of the summer solstice. The shortest twilights occur when the sun is a little more than 90° from the elevated pole, those in the United States being in the first halves of March and October.

Civil twilight begins or ends when the sun's center is 6° below the rational horizon. At this time the brightest stars are visible. The duration of civil twilight is usually about one-third of the duration of astronomical twilight, but is less than one-third when the astronomical twilight is very long.

Table 12, page 520.—This table gives the reduction of local mean time to standard meridian time. Whenever standard time is used, the values given in Tables 10 and 11 must be corrected by the difference of longitude in time between the station and its standard meridian by means of Table 12.

Examples of the use of these tables.

ON THE USE OF TABLES 1, 3, AND 6, EXAMPLES 1 TO 6.

Example 1.—Find the times and heights of high and low waters at Pulpit Harbor, Me., August 16, 1909.

For the State of Maine the index refers to page 346, indicating the beginning of the portion of Table 3 in which Pulpit Harbor is found in its geographic sequence. The standard port for reference is there seen to be Boston, page 69.

	Standard time.	Height.
	<i>h. m.</i>	<i>Fet.</i>
Page 71. First LW at Boston, August 16, 1909.....	5 38	— 0.3
Page 348. LW differences for Pulpit Harbor	— 0 37	0.0
First LW at Pulpit Harbor, August 16, 1909.....	5 01	— 0.3
Page 71. First HW at Boston, August 16, 1909.....	11 48	8.8
Page 348. HW differences for Pulpit Harbor.....	— 0 34	+ 0.3
First HW at Pulpit Harbor, August 16, 1909.....	11 14	9.1
Page 71. Second LW at Boston, August 16, 1909.....	17 49	0.4
Page 348. LW differences for Pulpit Harbor	— 0 37	0.0
Second LW at Pulpit Harbor, August 16, 1909.....	17 12	0.4
Page 71. Second HW at Boston, August 16, 1909.....	23 58	9.9
Page 348. HW differences for Pulpit Harbor.....	— 0 34	+ 0.3
Second HW at Pulpit Harbor, August 16, 1909.....	23 24	11.2

0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 23^h 24^m is 11^h 24^m p. m.

If, for any reason, local time is desired, it may be obtained from the column of Table 3 headed "Longitude in time" by subtracting this longitude for the station from the standard time meridian and applying this difference, according to sign, to the predictions given by these tables. See formula (52). For instance, the standard time meridian at Pulpit Harbor is 5^h, and the local longitude is 4^h 36^m; hence 5^h - 4^h 36^m = + 24^m is the correction to change standard to local time at Pulpit Harbor. But it must be borne in mind that local time is rarely used in the United States.

Example 2—Rough predictions without the use of Table 1.—Find the approximate times and heights of high and low waters at Pulpit Harbor, Me., for the date given in Example 1, without making use of Table 1.

At this station the diurnal and phase inequalities being comparatively small, the approximate times of the tides may be obtained by adding the lunital intervals, Table 3, line 24, page 349, to the moon's local transits, but for convenience Greenwich transits, Table 6, will be used directly, and the lunital intervals adapted to them by adding, once for all, 60 (1.035 L - S), from equation 62, page 40. For Pulpit Harbor this is

$$\begin{aligned} 60 [(1.035 \times 4^{\text{h}}.6) - 5^{\text{h}}] &= -14^{\text{m}}. \\ \therefore \text{Adapted HWI} &= 11^{\text{h}} 02^{\text{m}} - 14^{\text{m}} = 10^{\text{h}} 48^{\text{m}}, \\ \text{Adapted LWI} &= 4^{\text{h}} 49^{\text{m}} - 14^{\text{m}} = 4^{\text{h}} 35^{\text{m}}. \end{aligned}$$

	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>
Page 461. Moon's transits, August 16, 1909.....	(0	11)	12	34
Adapted HWI	10	48	10	48
Standard times of HW's, August 16, 1909	10	59	23	22
Page 461. Moon's transits, August 16, 1909.....	(0	11)	12	34
Adapted LWI.....	4	35	4	35
Standard times of LW's, August 16, 1909	4	46	17	09

From Table 3 (pp. 348-349, line 24) we find $Mn=9.9$ feet, and that the plane of reference is mean low water. The time and height of tides, August 27, thus roughly predicted, would be

$$\begin{array}{cccc} 4:46 & 10:59 & 17:09 & 23:22 \\ 0.0 & 9.9 & 0.0 & 9.9 \end{array}$$

The above example is given for the purpose of illustrating the use of a table of the moon's transits as a ready means for making approximate predictions for any year. For the year of the tide tables the method is not recommended, the preceding or following being easier of application and generally more exact.

Example 3.—Find the times and heights of high and low waters at Juneau, Alaska, January 5, 1909.

For the territory of Alaska the index refers to page 400, indicating the beginning of the portion of Table 3 in which Juneau is found in geographic sequence. The standard port for reference is there seen to be Sitka, page 165. In this example, formula (58) on page 38 is used in obtaining the heights because the ratio of ranges differs more than 25 per cent from unity.

	Standard time.		Height.
	<i>h.</i>	<i>m.</i>	<i>Fet.</i>
Page 165. First HW at Sitka, January 5, 1909.....	0	20	8.5
Page 402. HW difference for Juneau	0	36	ratio 1.88
Product, $r h_s =$			16.0
Page 402. $D_u - r D_s = 9.4 - 1.88 \times 5.4 =$			0.8
First HW at Juneau, January 5, 1909	0	56	15.2
Page 165. First LW at Sitka, January 5, 1909	5	34	3.9
Page 402. LW difference for Juneau	+ 0	35	ratio 1.88
Product, $r h_s =$			7.3
Page 402. $D_u - r D_s = 9.4 - 1.88 \times 5.4 =$			0.8
First LW at Juneau, January 5, 1909	6	09	6.5
Page 165. Second HW at Sitka, January 5, 1909 ..	11	25	10.7
Page 402. HW difference for Juneau	+ 0	36	ratio 1.88
Product, $r h_s =$			20.1
Page 402. $D_u - r D_s = 9.4 - 1.88 \times 5.4 =$			0.8
Second HW at Juneau, January 5, 1909	12	01	19.3
Page 165. Second LW at Sitka, January 5, 1909 ..	18	21	1.7
Page 402. LW difference for Juneau	+ 0	35	ratio 1.88
Product, $r h_s =$			3.2
Page 402. $D_u - r D_s = 9.4 - 1.88 \times 5.4 =$			0.8
Second LW at Juneau, January 5, 1909	18	56	4.0

Example 4.—A more accurate method for determining the height of the tide at any secondary station where the tide never becomes diurnal.—Find the heights of high and low waters at Juneau, Alaska, for the date given in Example 3.

It often happens that the ratio of ranges of the diurnal wave for the principal and subordinate stations is not equal to the ratio of their mean ranges. This implies that the types of the tides at the two places are not exactly similar. The following method, which is somewhat more elaborate than the one just exemplified, should be used if more carefully predicted heights are required:

(a) Find the times of the required tides as in the above example, and then copy the heights from the predictions for the standard port, beginning and ending so as to include at each end one high and one low water before and after the required heights; for distinction these extra heights may be inclosed in brackets.

(b) From Table 3, take out the following quantities, the notation used here being temporary:

r = the ratio of ranges.

$r' = \frac{\text{tropic range diurnal wave secondary station.}}{\text{tropic range diurnal wave primary station.}}$

$r' = \frac{\text{tropic range diurnal wave secondary station.}}{\text{tropic range diurnal wave primary station.}}$

D_s = depression below mean sea level of reference plane at the standard port.

D_u = depression below mean sea level of reference plane at the subordinate port.

(c) The high and low water inequalities (HWQ), (LWQ), given in Table 3, are for the *tropic tides*, and will not apply to other tides. To find the high-water inequality ($HW\text{ineq.}$) for any high water at the principal station, take the mean difference between its height and that of the preceding and following high waters of (a); and then multiply it by $\frac{1}{2}(r-r')$ of (b). The low-water inequality ($LW\text{ineq.}$) is found in a similar manner, and multiplied by the same factor. The inequality obtained by comparing a higher high water with the lower high waters on either side of it may be marked ($HW\text{ineq.}$)_a, and the inequality of which the lower high water is the middle height may be marked ($HW\text{ineq.}$)_b. Similarly the low-water inequalities are designated ($LW\text{ineq.}$)_a, and ($LW\text{ineq.}$)_b, for the lower low waters and higher low waters, respectively.

(d) The required heights are then given by the following equations, where single subscripts refer to heights at the standard and double subscripts to heights at the subordinate or required station:

$$\begin{aligned} (HHW)_{..} &= r \times (HHW)_i + (D_{..} - r \times D_i) - (HW\text{ineq.})_a \times \frac{1}{2}(r-r') \\ (LHW)_{..} &= r \times (LHW)_i + (D_{..} - r \times D_i) + (HW\text{ineq.})_b \times \frac{1}{2}(r-r') \\ (HLW)_{..} &= r \times (HLW)_i + (D_{..} - r \times D_i) - (LW\text{ineq.})_b \times \frac{1}{2}(r-r') \\ (LLW)_{..} &= r \times (LLW)_i + (D_{..} - r \times D_i) + (LW\text{ineq.})_a \times \frac{1}{2}(r-r') \end{aligned}$$

Applying the above to the given example for Juneau, the computation is as follows:

(a.) The heights from page 165, for Sitka, are:

Jan. 4, 1909, —	[10.5—1.3]
Jan. 5, 1909, 8.5	3.9 10.7 —1.7
Jan. 6, 1909, [8.7	3.9] — —

(b.) The ratio of ranges is given on page 402, line 25, as $r=1.88$; to find r' , observe on page 403, line 25, that the tropic range of the diurnal wave for Juneau is 6.8, and line 44, page 403, for Sitka, the corresponding value is 4.9, hence $r' = \frac{6.8}{4.9} = 1.39$; on the same lines we find $D_i = 5.4$, and $D_{..} = 9.4$. The term $(D_{..} - r \times D_i)$, in the above equations, is a constant for any given station and is here equal to $9.4 - 1.88 \times 5.4 = -0.8$. Of the unbracketed heights, 8.5 is the LHW, 3.9 the HLW, 10.7 the HHW, and -1.7 the LLW. Taking the mean of the differences between each of these and the preceding and following tide of same phase, we obtain the inequalities as shown below.

(c.) The high-water inequalities are:

10.5—8.5=2.0 for LHW	10.7—8.5=2.2 for HHW
10.7—8.5=2.2 for LHW	10.7—8.7=2.0 for HHW
Mean = 2.1 for LHW	Mean = 2.1 for HHW
Factor = .245 = $\frac{1}{2}(r-r')$	Factor = .245 = $\frac{1}{2}(r-r')$
Product = 0.5 = ($HW\text{ineq.}$) _b $\times \frac{1}{2}(r-r')$	Product = 0.5 = ($HW\text{ineq.}$) _a $\times \frac{1}{2}(r-r')$

The low-water inequalities are:

3.9+1.3=5.2 for HLW	3.9+1.7=5.6 for LLW
3.9+1.7=5.6 for HLW	3.9+1.7=5.6 for LLW
Mean = 5.4 for HLW	Mean = 5.6 for LLW
Factor = .245 = $\frac{1}{2}(r-r')$	Factor = .245 = $\frac{1}{2}(r-r')$
Product = 1.3 = ($LW\text{ineq.}$) _b $\times \frac{1}{2}(r-r')$	Product = 1.4 = ($LW\text{ineq.}$) _a $\times \frac{1}{2}(r-r')$

(d.) The required heights at Juneau are therefore:

$$\begin{aligned} (LHW)_{..} &= 1.88 \times 8.5 - 0.8 + 0.5 = 15.7 \text{ feet.} \\ (HLW)_{..} &= 1.88 \times 3.9 - 0.8 - 1.3 = 5.2 \text{ feet.} \\ (HHW)_{..} &= 1.88 \times 10.7 - 0.8 - 0.5 = 18.8 \text{ feet.} \\ (LLW)_{..} &= 1.88 \times -1.7 - 0.8 + 1.4 = -2.6 \text{ feet.} \end{aligned}$$

The heights by this process are reckoned from the plane given at the head of the columns of differences for heights in Table 3, which in this case is the mean of the lower low waters. In Table 5 are given the variations of mean sea level at many of the principal ports, from which one may roughly estimate the correction due to season of the year at the subordinate port. For the above example this correction happens to be about +0.2 feet, and it affects all heights alike.

Example 5—Rough predictions without the use of Table 1.—Find the approximate times and heights of high and low waters at Juneau, Alaska, for the date given in Example 3.

At this station the diurnal inequality is large, especially when the moon is far from the equator, as it is upon January 5, 1909. For such dates the times of tide become approximately known by adding the tropic intervals, properly adapted, as in Example 2, to the Greenwich transits, Table 6.

	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>
Adapted tropic HHWI=	0	19	0	17	=0	36 <i>b</i>
Adapted tropic LLWI=	7	06	+	0	17	=7 23 <i>b</i>
Adapted HWI=	0	45	+	0	17	=1 02
Adapted LWI=	6	56	+	0	17	=7 13
Adapted tropic LHWI=	2	× (1	02)	−	(0	36)=1 28 <i>a</i>
Adapted tropic HLWI=	2	× (7	13)	−	(7	23)=7 03 <i>a</i>

	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>
Page 460. Moon's transits, January 4, 5, 1909	22	42	(11	09)
Adapted tropic HWT's	1	28 <i>a</i>	0	36 <i>b</i>
Standard time of HW's, January 5, 1909	0	10	11	45
Page 460. Moon's transits, January 4, 5, 1909	22	42	(11	09)
Adapted tropic LWT's	7	03 <i>a</i>	7	23 <i>b</i>
Standard time of LW's, January 5, 1909	5	45	18	32

Table 3, page 403, line 25, gives 2.2 and 6.2 feet for the tropic diurnal inequality in HW and LW, respectively, and 14.5 feet for mean range. Consequently the higher high water should be about one-half the tropic diurnal inequality higher than mean HW, and the lower high water as much lower. So for the low waters. The heights of the four tides referred to mean low water are:

<i>H.</i>	<i>H.</i>	<i>H.</i>
HHW=	14.5 + 1.1=	15.6
LHW=	14.5 − 1.1=	13.4
HLW=	0 + 3.1=	3.1
LLW=	0 − 3.1=	− 3.1

The predictions obtained from Table 1 are referred to the mean of the lower low waters, which is, by § 9, formula (40),

$$\frac{6.2}{3} + \frac{.04 (18.3 - 14.5)^2}{6.2} = 2.2$$

feet below mean low water. Arranging the tides in the order of occurrence and referring the heights just obtained to the plane of mean lower low water, we have

LHW	HLW	HHW	LLW
0:10	5:45	11:45	18:32
15.6	5.3	17.8	−0.9

Example 6.—Find the times and heights of high and low water at Shibayama, Japan, March 17, 1909.

For Japan the index refers to page 406, indicating the beginning of the portion of Table 3 in which Shibayama is found in its geographic sequence. The standard port for reference is there seen to be San Francisco, page 153. In this example, formula (58) on page 38 is used in obtaining the heights. On pages 408–409, line 24, we obtain $r = 0.13$

and $D_{II} = 0.3$; and on page 391, line 12, we have $D_I = 3.2$. That part of formula (58), represented by $D_{II} - r D_I$, is a constant for any given station and is here equal to $0.3 - 0.13 \times 3.2 = -0.1$.

	Standard time.		Height.
	<i>h.</i>	<i>m.</i>	<i>Feet.</i>
Page 153. Second LW at San Francisco, March 17, 1909.....	14	10	-0.3
Page 408. LW difference for Shibayama.....	- 9	53	ratio 0.13
Product $r h_I =$			0.0
$D_{II} - r D_I =$			-0.1
First LW at Shibayama, March 17, 1909.....	4	17	-0.1
Page 153. Second HW at San Francisco, March 17, 1909.....	21	35	4.7
Page 408. HW difference for Shibayama.....	-10	17	ratio 0.13
Product $r h_I =$			0.6
$D_{II} - r D_I =$			-0.1
First HW at Shibayama, March 17, 1909.....	11	18	0.5
Page 153. First LW at San Francisco, March 18, 1909.....	2	20	2.9
Page 408. LW difference for Shibayama.....	- 9	53	ratio 0.13
Product $r h_I =$			0.4
$D_{II} - r D_I =$			-0.1
Second LW at Shibayama, March 17, 1909.....	16	27	0.3
Page 153. First HW at San Francisco, March 18, 1909.....	8	12	5.7
Page 408. HW difference for Shibayama.....	-10	17	ratio 0.13
Product $r h_I =$			0.7
$D_{II} - r D_I =$			-0.1
Second HW at Shibayama, March 17, 1909.....	21	55	0.6

These predictions for Shibayama are in Cosmopolitan or Standard time of the one hundred and thirty-fifth meridian east, and the date requires no alteration, because the one station is east of the day line and the other is west. In predicting tides from the moon's transits (see examples 2, 5), S and L for Shibayama become negative—i. e., they are reckoned eastward; of taken otherwise, the change of date introduced by going westward from Greenwich to Shibayama would have to be allowed for.

ON THE USE OF TABLE 9—CURRENT TABLES, EXAMPLES 7 TO 12.

Example 7.—Find the direction and velocity of the current at station (5), page 466, which is in mid-channel south from Clark Island, Portsmouth Harbor, at noon, July 28, 1909.

From the current table, page 466, we find that the currents in this vicinity are referred to the tides at Portland, the predictions for which begin on page 65.

Upon referring to these predictions it is seen that noon, July 28, 1909, is about one hour before Portland low water. The current table, for station (5), page 466, shows that at such a time the direction of the current is N. 84° E., and that its velocity is 2.3 knots.

Example 8.—Find the times, referred to the Boston tides, of slack water and of strength of current at station (1), page 467, which is in South Channel 1.2 miles N. 85° E. from Deer Island Light, Boston Harbor.

To find the times of slack with regard to high or low water, observe where the current table, for station (1), page 467, shows a sudden change of direction, which is between 0 h. and 1 h. after HW, and 0 h. and 1 h. after LW at Boston. In the first instance the

velocities are 0.1 and 0.8 knot, which are to each other as 1 to 8, so that if the 60 minutes between 0 h. and 1 h. are divided into $1 + 8 = 9$ parts, one of these parts, or about 7 minutes, is the time elapsing to the middle of the slack. This slack occurs, therefore, at 0^h 07^m after HW, which shows that it is the slack before ebb. Near the second slack the velocities are as 1 to 9, so that if 60 minutes are divided into $1 + 9 = 10$ parts, one of these, or 6 minutes, represents the time in excess of 0 hour after LW to the slack before flood, which occurs, therefore, at 0^h 06^m after LW.

To find the times of strength of flood or ebb with regard to high or low water is not quite so simple as the preceding; but for most purposes it will suffice to determine these times very approximately by a mere inspection of the tables to note where the greatest velocities occur. Thus, for this example, the strength of flood is readily seen to be about 3^h 05^m before HW and the strength of ebb about 2^h 40^m before LW. More exact determinations of these times can be made by plotting the velocities upon profile paper.

The above times of slack and strength, with regard to the times of high and low water at Boston, may be regarded as constants for this station, for the table does not enable us to take into account the small fluctuations which these values undergo during a lunation. In order to turn these relative times into actual times for any given date, proceed as in Example 10.

Example 9.—Find the times, referred to the New York tides, of slack water and of strength of current at The Narrows, New York Harbor, from the diagram on page 481.

To find the times of slack, with regard to high or low water, note on the diagram, page 481, where the curves called "slack before flood" and "slack before ebb" cross the horizontal line opposite "The Narrows." For slack before flood this will be found to be about 2^h 20^m after LW, and for slack before ebb about 1^h 20^m after HW at New York.

The times of strength of flood and ebb are obtained from the diagram in a similar way, and are for strength of flood about 1^h 25^m before HW, and for strength of ebb about 2^h 00^m before LW at New York. The velocities are for flood, between 1.7 and 1.8 knots, and for ebb, between 2.2 and 2.3 knots, as shown by the small figures on the diagram.

The above times of slack and strength, with regard to the times of high and low water at New York, may be regarded as constants for this station, for the diagram does not enable us to take into account the small fluctuations which these values undergo during a lunation.

Example 10.—Find the Eastern Standard (seventy-fifth meridian) times of slack water and of strength of current at The Narrows, New York Harbor, for June 26, 1909.

		Standard time.			
		h. m.		h. m.	
Page	86. Times of HW at New York, June 26, 1909	1	42	14	37
<i>Example 9.</i>	Times of strength of flood at The Narrows before New York HW	1	25	1	25
	Times of strength of flood at The Narrows, June 26, 1909	0	17	13	12
Page	86. Times of HW at New York, June 26, 1909	1	42	14	37
<i>Example 9.</i>	Times of slack before ebb at The Narrows after New York HW	1	20	1	20
	Times of slack before ebb at The Narrows, June 26, 1909	3	02	15	57
Page	86. Times of LW at New York, June 26, 1909	8	35	21	17
<i>Example 9.</i>	Times of strength of ebb at The Narrows before New York LW	2	00	2	00
	Times of strength of ebb at The Narrows, June 26, 1909	6	35	19	17
Page	86. Times of LW at New York, June 26, 1909	8	35	21	17
<i>Example 9.</i>	Times of slack before flood at The Narrows after New York LW	2	20	2	20
	Times of slack before flood at The Narrows, June 26, 1909	10	55	23	37

Example 11.—Find the lunicurrent intervals for the times of slack water and of strength of current for Example 9.

The port of reference for the currents in The Narrows is New York (Governors Island), the constants for which are found by the index to begin on page 358, and on the opposite page, line 9, the lunitidal intervals are given as 8^h 04^m and 2^h 05^m, for high and low waters, respectively. Whenever the times of slack or strength are *before* high or low water, these times must be subtracted from the above lunitidal intervals in order to obtain the corresponding lunicurrent intervals; but whenever these times are *after* high or low water, add them to the lunitidal intervals.

Applying these rules to the times of slack and strength already found, and arranging the results in the order of their occurrence, we have:

	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>
Lunicurrent interval for strength of ebb, = 2	05	— 2	00	= 0	05	
Lunicurrent interval for slack before flood, = 2	05	+ 2	20	= 4	25	
Lunicurrent interval for strength of flood, = 8	04	— 1	25	= 6	39	
Lunicurrent interval for slack before ebb, = 8	04	+ 1	20	= 9	24	

Whenever the lunitidal interval is less than the time of slack or strength and the latter has to be taken from the former, add 12^h 25^m to the lunitidal interval before making the subtraction. When the sum of the lunitidal interval and the time of slack or strength exceeds 12^h 25^m, subtract that amount from the sum.

Example 12.—Find the lunicurrent intervals for one-quarter and for three-quarter ebb and flood, respectively; for the preceding example.

One-half of the sum of the lunicurrent intervals for slack before ebb and strength of ebb is called the lunicurrent interval for one-quarter ebb; and similarly, substituting flood for ebb, the interval for one-quarter flood is obtained. One-half of the sum of the lunicurrent intervals for strength of ebb and slack before flood gives the lunicurrent interval for three-quarter ebb, and exchanging the words ebb and flood gives the interval for three-quarter flood.

Whenever the two lunicurrent intervals between which the one-quarter or three-quarter points lie differ from one another more than 6 hours, find the half sum in the usual way, and if this half sum is less than 6^h 13^m increase it by that amount, but when the half sum exceeds 6^h 13^m diminish it by that amount. Do not add 6^h 13^m to or subtract it from any half sum unless the two lunicurrent intervals from which the sum was obtained differ by more than 6 hours. Applying these remarks to the example in hand, we have—

	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>	<i>h.</i>	<i>m.</i>
Lunicurrent interval for three-quarter ebb, = $\frac{1}{2}$ (0	05	+ 4	25)	=			2	15
Lunicurrent interval for one-quarter flood, = $\frac{1}{2}$ (4	25	+ 6	39)	=			5	32
Lunicurrent interval for three-quarter flood, = $\frac{1}{2}$ (6	39	+ 9	24)	=			8	02
Lunicurrent interval for one-quarter ebb, = $\frac{1}{2}$ (0	05	+ 9	24)	+ 6	13	= 10	57	

If it is desired to find the time at which the phase of current corresponding to any given lunicurrent interval occurs before or after the time of tide at the port of reference, take the difference between the given lunicurrent interval and either the high or the low water lunitidal interval at the port of reference, according to which gives the less difference.

ON THE USE OF TABLES 10, 11, AND 12.—SUNRISE, SUNSET, AND TWILIGHT, EXAMPLES 13, 14, AND 15.

Example 13.—Find the local mean time and standard time of sunrise at San Francisco, Cal., on April 3, 1909.

For San Francisco the latitude = $37^{\circ} 49' \text{ N.}$
 For San Francisco the longitude = $122^{\circ} 29' \text{ W.}$
 For San Francisco Standard time meridian = $120^{\circ} 00' \text{ W.}$
 The sun's declination on April 3, 1909, at 6 a. m. = $5^{\circ} 12' \text{ N.}$

<i>Approximate method.</i>		<i>Exact method.</i>	
	<i>h. m.</i>		<i>h. m.</i>
April 1, for lat. 38° N. , Table 10	5 45	Decl. $4^{\circ} 15' \text{ N.}$, for lat. 38° N. , Table 10	5 45
Correction for 2 days	—03	Correction for $57'$ declination	—04
Correction for $11'$ latitude	00	Correction for $11'$ latitude	00
Local mean time sunrise	5 42	Local mean time sunrise	5 41
Red. for long. $2^{\circ} 29' \text{ W.}$, Table 12	+10	Red. for long. $2^{\circ} 29' \text{ W.}$, Table 12	+10
Standard time sunrise	5 52	Standard time sunrise	5 51

Example 14.—Find the local mean time of sunset at Buenos Ayres on December 10 1909.

For Buenos Ayres the latitude = $34^{\circ} 36' \text{ S.}$
 For Buenos Ayres the longitude = $58^{\circ} 22' \text{ W.}$
 Sun's declination on December 10, at 7 p. m. = $22^{\circ} 56' \text{ S.}$

<i>Approximate method.</i>		<i>Exact method.</i>	
	<i>h. m.</i>		<i>h. m.</i>
December 12, for lat. 35° S. , Table 10	7 08	Decl. $23^{\circ} 04' \text{ S.}$, for lat. 35° S. , Table 10	7 08
Correction for 2 days	—02	Correction for $8'$ declination	—01
Correction for $24'$ latitude	—01	Correction for $24'$ latitude	—01
Local mean time sunset	7 05	Local mean time sunset	7 06

Example 15.—Find the local mean time of beginning of morning twilight, and duration of astronomical and civil twilight at San Francisco, Cal., on April 3, 1909, with the data of Example 13.

<i>Approximate method.</i>		<i>Exact method.</i>	
	<i>h. m.</i>		<i>h. m.</i>
April 1, for lat. 40° N. , Table 11	4 13	Decl. $4^{\circ} 15' \text{ N.}$, for lat. 40° N. , Table 11	4 13
Correction for 2 days	—0 04	Correction for $57'$ declination	—0 05
Correction for $2^{\circ} 11'$ latitude	+0 04	Correction for $2^{\circ} 11'$ latitude	+0 04
Local mean time of beginning of twilight	4 13	Local mean time of beginning of twilight	4 12
		<i>h. m.</i>	
Local mean time of sunrise, Example 13		5 41	
Local mean time of beginning of twilight		4 12	
Duration of astronomical twilight		1 29	
Duration of civil twilight, one-third of above		0 30	
Subtracting 30 minutes from time of sunrise gives for the beginning of civil twilight		5 11	

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JANUARY.							FEBRUARY.							MARCH.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	M.						W.	M.						W.	M.				
N O A E C S P D	F	1	2:20 2.8	8:56 0.8	15:14 2.5	21:05 0.8	N O A E C S P D	M	1	8:54 3.0	11:16 0.8	17:29 2.2	22:37 0.8	N O A E C S P D	M	1	2:11 2.7	9:45 1.1	16:03 2.0	21:00 1.2
	S	2	3:25 2.9	10:15 0.7	16:26 2.5	22:05 0.7		Tu	2	4:53 3.1	12:10 0.6	18:20 2.3	23:31 0.7		Tu	2	3:29 2.8	11:14 1.0	17:37 2.1	22:23 1.0
	S	3	4:20 3.2	11:16 0.6	17:26 2.5	22:59 0.6		W	3	5:45 3.3	12:49 0.5	18:55 2.5			W	3	4:39 2.9	12:01 0.8	18:16 2.3	23:25 0.8
	M	4	5:11 3.4	12:06 0.4	18:15 2.6	23:44 0.5		Th	4	6:18 0.6	6:30 3.4	13:20 0.3	19:25 2.7		Th	4	5:38 3.1	12:35 0.6	18:43 2.5	
	Tu	5	5:59 3.6	12:50 0.8	18:56 2.8			F	5	6:59 0.5	7:10 3.5	13:49 0.2	19:54 2.8		F	5	6:12 0.6	6:19 3.2	13:00 0.4	19:06 2.7
	W	6	6:28 0.5	6:41 3.6	13:26 0.2	19:31 2.7		S	6	1:35 0.5	7:45 3.5	14:15 0.1	20:21 2.9		S	6	6:50 0.5	6:56 3.3	13:26 0.2	19:30 2.9
	Th	7	1:08 0.4	7:20 3.7	14:00 0.1	20:07 2.7		S	7	2:08 0.5	8:19 3.5	14:41 0.1	20:50 3.0		S	7	1:21 0.4	7:29 3.4	13:49 0.1	19:56 3.1
	F	8	1:44 0.5	7:58 3.6	14:37 0.2	20:40 2.7		M	8	2:34 0.5	8:49 3.3	15:10 0.1	21:17 8.0		M	8	1:49 0.3	7:59 3.4	14:12 0.1	20:21 3.2
	S	9	2:15 0.6	8:35 3.5	15:05 0.2	21:12 2.7		Tu	9	3:08 0.5	9:19 3.2	15:36 0.2	21:44 3.0		Tu	9	2:15 0.3	8:27 3.3	14:36 0.1	20:46 3.3
	S	10	2:45 0.7	9:10 3.8	15:38 0.3	21:45 2.7		W	10	3:38 0.5	9:49 3.0	16:03 0.3	22:16 3.0		W	10	2:44 0.2	8:54 3.2	15:00 0.2	21:10 3.3
A	M	11	3:17 0.7	9:44 3.1	16:10 0.4	22:16 2.7	Th	11	4:10 0.5	10:24 2.9	16:29 0.5	22:53 2.9	Th	11	3:16 0.2	9:25 3.1	15:24 0.3	21:39 3.2		
E	Tu	12	3:54 0.8	10:18 2.9	16:44 0.5	22:55 2.7	F	12	4:55 0.6	11:00 2.7	17:00 0.7	23:36 2.8	F	12	3:51 0.3	9:56 3.0	15:49 0.4	22:15 3.1		
C	W	13	4:34 0.9	10:54 2.7	17:15 0.7	23:41 2.7	S	13	5:49 0.8	11:48 2.4	17:34 0.9		S	13	4:31 0.4	10:27 2.7	16:16 0.6	22:59 3.0		
C	Th	14	5:25 1.0	11:40 2.5	17:49 0.9		S	14	6:36 2.7	7:06 0.9	12:48 2.2	18:19 1.1	C	S	14	5:25 0.6	11:05 2.5	16:49 0.8	23:56 2.9	
	F	15	6:33 2.6	6:36 1.0	12:44 2.3	18:40 1.0	M	15	1:52 2.7	8:43 1.0	14:52 2.0	19:40 1.2	M	15	6:33 0.8	12:01 2.2	17:30 1.1			
	S	16	1:36 2.6	8:05 1.1	14:10 2.2	19:46 1.1	Tu	16	3:12 2.9	10:09 0.8	16:30 2.0	21:40 1.1	S	Tu	16	1:14 2.7	8:09 1.0	14:05 2.0	18:49 1.3	
	S	17	2:45 2.7	9:29 0.9	15:40 2.2	21:01 1.1	W	17	4:21 3.1	11:15 0.6	17:30 2.4	22:56 0.8	W	17	2:44 2.8	9:45 0.9	15:05 2.1	21:23 1.1		
	M	18	3:49 2.9	10:35 0.7	16:48 2.3	22:14 0.9	Th	18	5:21 3.4	12:07 0.3	18:17 2.7	23:53 0.5	Th	18	4:01 3.0	10:55 0.6	17:10 2.4	22:45 0.7		
	Tu	19	4:45 3.2	11:30 0.4	17:44 2.5	23:11 0.7	F	19	6:12 3.7	12:50 0.0	18:58 3.0		F	19	5:05 3.3	11:48 0.3	17:57 2.8	23:42 0.4		
S	W	20	5:37 3.5	12:18 0.2	18:30 2.7		S	20	6:42 0.2	7:00 3.9	13:30 -0.2	19:37 3.2	S	20	5:59 3.6	12:30 0.1	18:36 3.1			
●	Th	21	6:04 0.5	6:25 3.8	13:05 -0.1	19:11 2.9	S	21	1:26 0.0	7:45 4.0	14:09 -0.3	20:15 3.4	P	S	21	6:30 0.0	6:48 3.8	13:09 -0.2	19:15 3.4	
	F	22	6:52 0.3	7:11 4.0	13:46 -0.3	19:52 3.0	E	M	22	2:10 -0.1	8:29 3.9	14:48 -0.8	20:55 3.5	E	M	22	1:15 -0.2	7:30 3.8	13:45 -0.3	19:51 3.6
P	S	23	1:35 0.2	7:55 4.0	14:30 -0.2	20:34 3.1	Tu	23	2:53 -0.1	9:11 3.7	15:25 -0.2	21:34 3.5	Tu	23	1:58 -0.3	8:11 3.8	14:20 -0.2	20:28 3.7		
	S	24	2:18 0.2	8:43 3.9	15:10 -0.2	21:15 3.2	W	24	3:39 -0.1	9:56 3.5	16:01 0.0	22:12 3.4	W	24	2:40 -0.3	8:51 3.7	14:55 -0.1	21:04 3.7		
	M	25	3:02 0.2	9:28 3.7	15:50 -0.1	22:00 3.2	Th	25	4:26 0.1	10:39 3.2	16:38 0.3	22:58 3.2	Th	25	3:21 -0.3	9:34 3.4	15:29 0.1	21:45 3.6		
E	Tu	26	3:50 0.2	10:13 3.5	16:24 0.1	22:42 3.1	D	F	26	5:19 0.4	11:29 2.8	17:16 0.6	23:50 3.1	F	26	4:06 0.0	10:16 3.0	16:01 0.4	22:29 3.4	
	W	27	4:45 0.3	11:00 3.1	17:16 0.3	23:31 3.1	S	27	6:21 0.7	12:32 2.4	17:59 1.0		S	27	4:55 0.3	11:01 2.6	16:35 0.7	23:19 3.1		
D	Th	28	5:45 0.5	11:59 2.8	18:04 0.6		S	28	6:55 2.9	7:45 1.0	14:01 2.1	19:15 1.2	S	28	5:54 0.7	12:00 2.3	17:12 1.1			
	F	29	6:28 2.9	6:55 0.7	13:10 2.5	19:00 0.9							M	29	6:20 2.8	7:10 1.0	13:30 2.0	18:16 1.4		
	S	30	1:36 2.8	8:21 0.9	14:39 2.2	20:11 1.0							Tu	30	1:37 2.6	9:05 1.1	15:40 1.9	20:38 1.3		
	S	31	2:46 2.9	10:00 0.9	16:10 2.2	21:30 1.0							W	31	3:01 2.6	10:41 1.0	17:10 2.1	22:10 1.1		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th meridian W; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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A	Th	1	4:19	11:29	17:45	23:13	2.7	0.8	2.3	0.9	E	S	1	4:46	11:08	17:19	23:29	2.7	0.7	2.7	0.8	O	Tu	1	5:30	11:19	17:31	23:11	2.7	0.7	3.1	0.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	F	2	5:16	11:59	18:09	23:57	2.9	0.6	2.6	0.7		S	2	5:31	11:42	17:50	23:57	2.8	0.6	2.9	0.8		W	2	6:00	11:53	18:06	23:46	0.4	2.8	0.6	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	3	6:00	12:26	18:32	24:11	3.0	0.4	2.8	0.7		M	3	6:03	12:09	18:15	24:11	0.5	2.9	0.5	3.1		Th	3	6:35	12:25	18:43	24:02	0.2	2.8	0.5	3.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	4	6:31	12:50	18:58	24:31	0.5	3.1	0.3	3.1		Tu	4	6:30	12:35	18:41	24:31	0.3	3.1	0.4	3.3		F	4	7:18	12:56	19:20	24:00	0.0	2.9	0.5	3.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	M	5	7:00	13:15	19:22	24:52	0.3	3.2	0.2	3.2		W	5	7:00	13:10	19:10	24:52	0.1	3.1	0.3	3.5		S	5	7:56	13:29	20:00	24:37	1.51	2.5	0.5	3.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
O	Tu	6	7:26	13:36	19:39	24:44	0.2	3.2	0.2	3.3	O	Th	6	7:41	13:26	19:41	25:14	1.32	3.1	0.4	3.6	S	S	6	8:35	14:01	20:41	25:00	2.33	2.8	0.6	3.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	W	7	7:55	14:00	20:10	25:34	0.1	3.3	0.2	3.4		F	7	8:05	13:51	20:15	25:34	2.05	8:13	13:51	20:15		M	7	9:15	14:40	21:26	25:00	3.15	9:15	14:40	21:26																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Th	8	8:25	14:24	20:40	25:54	0.0	3.2	0.2	3.4		S	8	8:43	14:20	20:53	25:54	2.44	8:43	14:20	20:53		Tu	8	10:00	15:25	22:17	25:00	4.02	10:00	15:25	22:17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	F	9	8:58	14:48	21:11	26:14	0.0	3.1	0.3	3.4		S	9	9:19	14:50	21:35	26:14	3.24	9:19	14:50	21:35		W	9	10:52	16:22	23:13	25:00	4.52	10:52	16:22	23:13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	10	9:30	15:14	21:49	26:34	0.1	2.9	0.5	3.3		M	10	9:58	15:25	22:24	26:34	4.10	9:58	15:25	22:24		Th	10	11:56	17:34	23:41	25:00	5.49	11:56	17:34	23:41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
S	S	11	10:05	15:43	22:35	26:54	0.3	2.7	0.6	3.1	C	Tu	11	10:47	16:12	23:21	26:54	5.02	10:47	16:12	23:21	E	F	11	13:07	18:07	19:08	25:00	6.51	13:07	18:07	19:08																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	M	12	10:47	16:21	23:33	27:14	0.5	2.4	0.9	2.9		W	12	11:58	17:20	24:02	27:14	6.05	11:58	17:20	24:02		S	12	14:18	19:08	20:37	25:00	7.34	14:18	19:08	20:37																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Tu	13	11:49	17:10	24:11	27:34	0.7	2.2	1.1	2.8		Th	13	7:24	13:36	19:11	27:34	0.35	7:24	13:36	19:11		S	13	15:20	20:00	21:49	25:00	8.05	15:20	20:00	21:49																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	W	14	7:47	13:52	18:50	25:54	2.8	0.9	2.0	1.3		F	14	8:40	15:01	21:00	25:54	2.00	8:40	15:01	21:00		M	14	16:15	22:50	24:04	25:00	8.06	16:15	22:50	24:04																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Th	15	9:20	15:40	21:14	26:14	2.8	0.9	2.2	1.0		S	15	9:47	16:08	22:12	26:14	3.20	9:47	16:08	22:12		Tu	15	17:04	23:45	25:00	25:00	5.05	17:04	23:45	25:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
P	F	16	10:26	16:43	22:31	26:34	3.41	10:26	16:43	22:31	E	S	16	10:43	16:50	23:10	26:34	4.30	10:43	16:50	23:10	N	W	16	17:50	24:04	26:00	25:00	5.56	17:50	24:04	26:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	17	11:18	17:27	23:27	26:54	4.49	11:18	17:27	23:27		M	17	11:28	17:33	23:56	26:54	5.24	11:28	17:33	23:56		Th	17	18:35	25:00	26:34	25:00	6.41	18:35	25:00	26:34																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	18	12:01	18:08	24:11	27:14	5.43	12:01	18:08	24:11		Tu	18	12:09	18:14	24:02	27:14	6.12	12:09	18:14	24:02		F	18	19:18	26:00	27:00	25:00	7.23	19:18	26:00	27:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	M	19	6:30	12:40	18:45	24:34	0.16	6:30	12:40	18:45		W	19	6:56	12:48	18:56	24:34	0.41	6:56	12:48	18:56		S	19	20:00	27:00	28:00	25:00	8.03	20:00	27:00	28:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Tu	20	7:11	13:16	19:20	24:54	0.59	7:11	13:16	19:20		Th	20	7:36	13:24	19:36	24:54	1.25	7:36	13:24	19:36		S	20	21:16	28:00	29:00	25:00	8.44	21:16	28:00	29:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
D	W	21	7:55	13:51	19:59	25:14	1.40	7:55	13:51	19:59	N	F	21	8:16	13:59	20:16	25:14	2.06	8:16	13:59	20:16	A	M	21	22:16	29:00	30:00	25:00	9.22	22:16	29:00	30:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Th	22	8:35	14:25	20:39	25:34	2.21	8:35	14:25	20:39		S	22	8:56	14:34	20:59	25:34	2.49	8:56	14:34	20:59		Tu	22	23:24	30:00	31:00	25:00	10.04	23:24	30:00	31:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	F	23	9:14	14:59	21:20	25:54	3.04	9:14	14:59	21:20		S	23	9:38	15:08	21:42	25:54	3.31	9:38	15:08	21:42		W	23	24:47	31:00	32:00	25:00	10.50	24:47	31:00	32:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	24	9:54	15:30	22:02	26:14	3.48	9:54	15:30	22:02		M	24	10:22	15:45	22:29	26:14	4.16	10:22	15:45	22:29		Th	24	25:50	32:00	33:00	25:00	11.30	25:50	32:00	33:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	S	25	10:40	16:03	22:53	26:34	4.35	10:40	16:03	22:53		Tu	25	11:16	16:30	23:20	26:34	5.05	11:16	16:30	23:20		F	25	26:50	33:00	34:00	25:00	12.24	26:50	33:00	34:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
N	M	26	11:36	16:43	23:30	26:54	5.30	11:36	16:43	23:30	D	W	26	12:19	17:36	24:02	26:54	6.00	12:19	17:36	24:02	E	S	26	27:50	34:00	35:00	25:00	13.24	27:50	34:00	35:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Tu	27	13:00	17:50	24:11	27:14	6.36	13:00	17:50	24:11		Th	27	7:03	13:32	19:19	27:14	0.21	7:03	13:32	19:19		S	27	28:50	35:00	36:00	25:00	14.23	28:50	35:00	36:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	W	28	8:05	14:42	20:08	27:34	1.02	8:05	14:42	20:08		F	28	8:11	14:45	20:57	27:34	1.35	8:11	14:45	20:57		M	28	29:50	36:00	37:00	25:00	15.17	29:50	36:00	37:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Th	29	9:31	16:00	21:45	27:54	2.26	9:31	16:00	21:45		S	29	9:15	15:37	22:01	27:54	2.52	9:15	15:37	22:01		Tu	29	30:50	37:00	38:00	25:00	16.06	30:50	37:00	38:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	F	30	10:26	16:46	22:47	28:14	3.45	10:26	16:46	22:47		S	30	10:05	16:21	22:46	28:14	4.00	10:05	16:21	22:46		W	30	31:53	38:00	39:00	25:00	16.53	31:53	38:00	39:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
A			2.5	0.9	2.4	1.0					M			2.4	0.9	2.6	0.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th meridian W; 0h is midnight; 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
O	Th	1	5:41 2.5	11:12 0.8	17:39 3.4				○	S	1	0:42 0.1	6:51 2.7	12:28 0.4	18:50 3.8	P	W	1	1:45 -0.2	7:51 3.4	13:47 -0.1	20:05 3.9										
	F	2	0:15 0.3	6:24 2.6	11:55 0.6	18:20 3.6				M	2	1:26 -0.1	7:31 2.9	13:12 0.3	19:36 3.9	E	Th	2	2:22 -0.3	8:30 3.5	14:30 -0.2	20:47 3.7										
	S	3	0:57 0.1	7:04 2.7	12:39 0.5	19:04 3.8				Tu	3	2:06 -0.2	8:12 3.1	13:56 0.2	20:21 3.9	F	3	3:00 -0.2	9:07 3.6	15:17 -0.1	21:30 3.6											
	S	4	1:39 -0.1	7:44 2.8	13:19 0.5	19:47 3.8				P	W	4	2:46 -0.2	8:52 3.2	14:41 0.2	21:05 3.8	S	4	3:37 0.0	9:45 3.5	16:03 0.0	22:13 3.2										
	M	5	2:24 -0.1	8:25 2.8	14:00 0.5	20:33 3.8				E	Th	5	3:26 -0.1	9:35 3.2	15:26 0.2	21:50 3.5	S	5	4:13 0.3	10:32 3.3	16:55 0.3	23:02 2.8										
P	Tu	6	3:04 -0.1	9:09 2.8	14:44 0.5	21:19 3.7				F	6	4:09 0.0	10:19 3.2	16:19 0.2	22:37 3.2	○	M	6	4:50 0.6	11:25 3.1	17:54 0.6	23:59 3.2										
	W	7	3:49 0.0	9:55 2.8	15:32 0.5	22:07 3.4				S	7	4:50 0.2	11:04 3.2	17:16 0.4	23:30 3.0	Tu	7	0:02 2.4	5:35 0.9	12:27 2.9	19:13 0.9											
	Th	8	4:35 0.2	10:44 2.8	16:28 0.6	23:00 3.2				○	S	8	5:35 0.5	11:57 3.0	18:21 0.6	24:00 3.2	N	W	8	1:28 2.1	6:45 1.2	13:42 2.8	21:00 1.0									
	F	9	5:24 0.3	11:35 2.9	17:34 0.7	23:56 2.9				M	9	6:33 2.6	12:53 0.8	19:00 2.9	24:00 0.8	Th	9	3:20 2.0	8:28 1.2	15:02 2.8	22:40 0.9											
	S	10	6:16 0.5	12:34 2.9	18:50 0.7	24:59 3.2				Tu	10	1:56 2.3	7:31 1.0	14:11 2.9	21:11 0.9	F	10	5:02 2.1	9:58 1.0	16:14 2.9	23:37 0.8											
C	S	11	1:05 2.7	7:13 0.8	13:38 2.8	20:09 0.7				W	11	3:26 2.2	8:50 1.0	15:21 3.0	22:40 0.8	S	11	5:49 2.3	11:03 0.8	17:13 3.1	23:59 3.2											
	M	12	2:27 2.5	8:18 0.8	14:44 2.9	21:28 0.7				N	Th	12	4:51 2.2	10:02 0.9	16:25 3.1	23:42 0.6	S	12	0:12 0.6	6:20 2.5	11:52 0.6	18:00 3.2										
	Tu	13	3:43 2.4	9:24 0.8	15:45 3.1	22:40 0.6				F	13	5:52 2.3	11:06 0.7	17:20 3.3	24:00 0.6	M	13	0:42 0.4	6:48 2.7	12:34 0.4	18:42 3.3											
	W	14	4:51 2.4	10:28 0.7	16:41 3.3	23:40 0.4				S	14	0:28 0.5	6:34 2.5	11:57 0.6	18:13 3.4	●	Tu	14	1:10 0.2	7:13 2.9	13:07 0.3	19:15 3.4										
	Th	15	5:49 2.5	11:15 0.6	17:35 3.5	24:59 3.2				●	S	15	1:03 0.3	7:07 2.6	12:40 0.5	18:53 3.5	W	15	1:33 0.2	7:38 3.1	13:38 0.3	19:45 3.3										
N	F	16	0:29 0.3	6:36 2.6	12:04 0.5	18:20 3.6				M	16	1:35 0.2	7:40 2.8	13:25 0.4	19:31 3.5	E	Th	16	1:57 0.1	8:03 3.2	14:04 0.3	20:13 3.3										
	●	S	17	1:10 0.2	7:16 2.7	12:49 0.5	19:04 3.7				Tu	17	2:03 0.2	8:07 2.9	13:55 0.4	20:05 3.4	A	F	17	2:20 0.2	8:28 3.3	14:35 0.2	20:44 3.2									
	S	18	1:49 0.2	7:53 2.7	13:30 0.4	19:45 3.7				W	18	2:30 0.1	8:38 3.0	14:25 0.4	20:38 3.3	S	18	2:42 0.2	8:51 3.2	15:01 0.3	21:08 3.1											
	M	19	2:23 0.2	8:29 2.8	14:08 0.5	20:25 3.5				A	Th	19	2:57 0.2	9:05 3.0	15:05 0.5	21:19 3.2	S	19	3:04 0.3	9:21 3.2	15:35 0.3	21:35 2.9										
	Tu	20	2:55 0.2	9:04 2.8	14:41 0.6	21:01 3.4				F	20	3:24 0.2	9:32 3.0	15:27 0.5	21:36 3.0	M	20	3:27 0.5	9:55 3.1	16:12 0.4	22:05 2.7											
A	W	21	3:29 0.2	9:39 2.8	15:16 0.7	21:38 3.2				S	21	3:48 0.4	10:02 3.0	16:00 0.6	22:10 2.9	Tu	21	3:53 0.6	10:37 3.0	17:00 0.6	22:39 2.4											
	Th	22	4:01 0.3	10:11 2.8	15:53 0.7	22:12 2.9				S	22	4:13 0.5	10:35 2.9	16:40 0.7	22:42 2.6	○	W	22	4:22 0.8	11:28 2.8	18:05 0.8	23:32 2.2										
	F	23	4:35 0.5	10:45 2.8	16:34 0.8	22:48 2.7				○	M	23	4:40 0.7	11:18 2.8	17:31 0.8	23:21 2.4	S	Th	23	5:01 1.1	12:42 2.7	19:35 1.0	24:59 3.2									
	S	24	5:05 0.7	11:29 2.8	17:21 0.9	23:32 2.5				Tu	24	5:12 0.9	12:13 2.7	18:40 0.9	24:00 3.2	F	24	1:13 1.9	6:07 1.8	14:11 2.7	21:15 1.0											
	○	S	25	5:37 0.8	12:15 2.6	18:20 1.0	24:59 3.2				W	25	0:15 2.1	5:50 1.1	13:25 2.7	20:10 1.0	S	25	3:40 2.0	8:48 1.2	15:34 2.9	22:29 0.7										
D	M	26	0:24 2.3	6:17 1.0	13:13 2.6	19:36 1.1				Th	26	2:07 2.0	6:55 1.3	14:45 2.8	21:42 0.9	S	26	4:44 2.3	10:20 0.8	16:40 3.2	23:21 0.4											
	Tu	27	1:34 2.2	7:11 1.1	14:19 2.7	20:59 1.0				S	F	27	4:00 2.1	9:00 1.2	15:55 3.0	22:50 0.7	M	27	5:30 2.7	11:18 0.5	17:35 3.4	24:59 3.2										
	W	28	3:05 2.1	8:18 1.1	15:21 2.9	22:10 0.9				S	28	5:05 2:3	10:28 0.9	16:57 3.3	23:43 0.4	○	Tu	28	0:04 0.1	6:10 3.1	12:06 0.1	18:22 3.7										
	Th	29	4:20 2.2	9:39 1.0	16:20 3.1	23:08 0.6				S	29	5:53 2.6	11:28 0.6	17:49 3.6	24:00 3.8	○	W	29	0:42 -0.1	6:48 3.4	12:50 -0.2	19:05 3.8										
	S	F	30	5:19 2.4	10:45 0.8	17:15 3.4	23:59 0.1				M	30	0:27 0.1	6:34 2.8	12:18 0.3	18:37 3.8	E	Th	30	1:19 -0.2	7:25 3.6	13:32 -0.3	19:47 3.8									
	S	31	6:09 2.5	11:39 0.7	18:04 3.6	24:59 3.2				○	Tu	31	1:07 -0.1	7:12 3.2	13:03 0.0	19:22 3.9																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart; unless a minus (—) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.
 ●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.							NOVEMBER.							DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.						W.	Mo.						W.	Mo.						
N C A ●	F	1	1:54 —0.2	8:01 3.8	14:15 —0.4	20:27 3.7	N C A ●	M	1	2:35 0.2	8:57 3.8	15:27 —0.1	21:32 2.9	W C S A D P O	W	1	2:51 0.5	9:22 3.6	15:57 0.2	22:02 2.6		
	S	2	2:28 —0.1	8:37 3.8	14:58 —0.4	21:10 3.4		Tu	2	3:10 0.5	9:42 3.6	16:13 0.2	22:18 2.6		Th	2	3:30 0.7	10:08 3.3	16:46 0.5	22:53 2.4		
	S	3	3:10 0.1	9:20 3.7	15:44 —0.1	21:52 3.1		W	3	3:45 0.7	10:30 3.3	17:08 0.5	23:14 2.3		F	3	4:15 1.0	11:00 2.9	17:38 0.7	23:56 2.3		
	M	4	3:37 0.4	10:04 3.5	16:34 0.2	22:38 2.7		Th	4	4:27 1.0	11:28 2.9	18:13 0.8	23:38 1.0		C	S	4	5:20 1.2	11:59 2.6	18:40 0.9	24:00 1.0	
	Tu	5	4:12 0.7	10:55 3.2	17:30 0.5	23:37 2.3		F	5	5:06 2.1	11:56 1.3	19:34 2.6	24:00 1.0		S	5	1:05 2.2	6:55 1.3	13:12 2.4	19:50 1.0		
	W	6	4:52 1.0	11:57 2.9	18:45 0.9	24:00 1.1		S	6	2:15 2.1	7:48 1.3	14:05 2.5	21:08 1.0		E	M	6	2:23 2.3	8:42 1.2	14:37 2.3	20:56 1.0	
	Th	7	1:04 2.1	6:00 1.3	13:12 2.8	20:32 1.1		S	7	3:37 2.2	9:32 1.1	15:30 2.5	22:07 0.9		A	Tu	7	3:22 2.5	9:54 1.1	15:50 2.4	21:50 0.9	
	F	8	3:03 2.0	8:18 1.3	14:40 2.6	22:12 1.0		M	8	4:28 2.4	10:37 0.9	16:35 2.6	22:56 0.7		W	8	4:10 2.6	10:43 0.9	16:43 2.4	22:32 0.8		
	S	9	4:37 2.1	9:52 1.1	16:00 2.7	23:05 0.8		Tu	9	5:07 2.7	11:22 0.7	17:20 2.8	23:28 0.6		Th	9	4:47 2.8	11:22 0.7	17:24 2.5	23:07 0.7		
	S	10	5:20 2.4	10:55 0.8	17:00 2.9	23:38 0.6		W	10	5:37 2.9	11:54 0.5	17:57 2.9	23:56 0.5		F	10	5:23 3.1	11:56 0.5	18:00 2.6	23:42 0.6		
	M	11	5:50 2.6	11:42 0.6	17:47 3.0	24:00 0.6		Th	11	6:02 3.1	12:22 0.3	18:20 3.0	24:00 0.6		S	11	5:55 3.3	12:28 0.3	18:35 2.7	24:00 0.6		
	Tu	12	0:08 0.4	6:15 2.9	12:20 0.4	18:24 3.1		●	F	12	0:32 0.4	6:28 3.3	12:50 0.2		18:57 3.0	●	S	12	0:14 0.6	6:30 3.5	13:02 0.2	19:08 2.8
S D E P O	W	13	0:36 0.3	6:42 3.1	12:48 0.8	18:55 3.2	S D E P O	S	13	0:46 0.4	6:55 3.4	13:20 0.1	19:25 3.0	S D E P O	M	13	0:44 0.5	7:05 3.6	13:37 0.0	19:41 2.8		
	Th	14	1:00 0.3	7:05 3.2	13:15 0.2	19:23 3.2		S	14	1:10 0.4	7:26 3.6	13:52 0.0	19:55 2.9		Tu	14	1:14 0.5	7:43 3.7	14:15 —0.1	20:16 2.8		
	F	15	1:20 0.2	7:27 3.3	13:41 0.1	19:50 3.2		M	15	1:32 0.5	7:57 3.6	14:27 0.0	20:23 2.9		W	15	1:43 0.5	8:22 3.7	14:55 0.0	20:53 2.7		
	S	16	1:43 0.3	7:53 3.4	14:08 0.1	20:15 3.1		Tu	16	1:57 0.5	8:32 3.5	15:03 0.0	20:55 2.7		Th	16	2:17 0.6	9:02 3.5	15:38 0.1	21:33 2.7		
	S	17	2:04 0.3	8:20 3.4	14:40 0.1	20:40 3.0		W	17	2:25 0.6	9:10 3.4	15:47 0.2	21:32 2.6		F	17	3:00 0.6	9:48 3.4	16:24 0.2	22:20 2.6		
	M	18	2:25 0.4	8:52 3.4	15:16 0.2	21:08 2.8		Th	18	2:57 0.7	9:54 3.2	16:34 0.4	22:16 2.5		S	18	3:50 0.7	10:38 3.1	17:14 0.4	23:15 2.6		
	Tu	19	2:50 0.5	9:27 3.3	15:56 0.3	21:40 2.6		F	19	3:42 0.9	10:47 3.0	17:30 0.6	23:17 2.3		D	S	19	4:53 0.8	11:38 2.9	18:11 0.6	24:00 2.3	
	W	20	3:16 0.7	10:08 3.1	16:44 0.5	22:20 2.4		D	S	20	4:40 1.0	11:55 2.8	18:42 0.8		24:00 2.3	E	M	20	0:21 2.6	6:17 0.9	12:48 2.7	19:14 0.8
	Th	21	3:49 0.9	11:00 2.9	17:46 0.7	23:15 2.2		S	21	0:45 2.2	6:15 1.2	13:20 2.7	20:01 0.8		Tu	21	1:35 2.6	7:52 0.9	14:10 2.5	20:22 0.9		
	F	22	4:37 1.1	12:12 2.7	19:09 0.9	24:00 0.6		M	22	2:20 2.4	8:20 1.0	14:45 2.7	21:13 0.7		W	22	2:44 2.7	9:13 0.7	15:33 2.6	21:28 0.8		
	S	23	0:58 2.0	6:03 1.3	13:47 2.7	20:42 0.9		E	Tu	23	3:32 2.7	9:43 0.7	16:00 2.8		22:13 0.6	P	Th	23	3:47 3.0	10:24 0.5	16:39 2.7	22:25 0.6
	S	24	3:10 2.2	8:40 1.1	15:12 2.8	21:56 0.7		W	24	4:23 3.0	10:44 0.4	16:59 3.0	23:02 0.4		F	24	4:39 3.3	11:22 0.3	17:35 2.8	23:15 0.5		
M	25	4:15 2.5	10:05 0.7	16:22 3.0	22:51 0.4	P	Th	25	5:08 3.3	11:34 0.0	17:49 3.2	23:43 0.2	S	25	5:29 3.6	12:12 0.1	18:23 2.8	24:00 0.5				
Tu	26	5:02 2.9	11:03 0.4	17:18 3.2	23:35 0.2	○	F	26	5:52 3.7	12:21 —0.2	18:33 3.2	24:00 0.6	○	S	26	0:00 0.3	6:15 3.8	12:58 0.0	19:07 2.9			
W	27	5:42 3.3	11:52 0.0	18:07 3.4	24:00 0.6	○	S	27	0:24 0.1	6:33 3.9	13:05 —0.3	19:15 3.2	N	M	27	0:45 0.3	7:00 3.9	13:40 —0.1	19:47 2.9			
Th	28	0:15 0.1	6:18 3.6	12:36 —0.2	18:48 3.6	S	28	1:02 0.1	7:14 4.0	13:47 —0.3	19:55 3.1	Tu	28	1:25 0.3	7:43 3.9	14:21 —0.1	20:26 2.9					
F	29	0:50 0.0	6:55 3.8	13:17 —0.5	19:30 3.6	N	M	29	1:40 0.2	7:55 4.0	14:29 —0.2	20:36 3.0	W	29	2:03 0.3	8:24 3.8	14:59 0.0	21:05 2.8				
S	30	1:26 —0.1	7:33 4.0	13:59 —0.5	20:11 3.4	Tu	30	2:14 0.3	8:38 3.8	15:12 —0.1	21:17 2.8	Th	30	2:43 0.5	9:06 3.6	15:38 0.1	21:45 2.7					
S	31	2:01 0.0	8:13 4.0	14:43 —0.4	20:50 3.2								F	31	3:22 0.6	9:48 3.3	16:19 0.3	22:28 2.7				

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	3:23 4.7	10:18 0.7	16:02 4.1	22:25 0.8					M	1	4:54 4.5	11:42 0.5	18:10 4.0					N	M	1	3:24 4.3	10:23 0.7	16:47 3.7	23:00 1.3						
	S	2	4:20 4.7	11:07 0.5	17:12 4.1	23:22 0.9					N	Tu	2	0:10 1.1	5:51 4.6	12:33 0.3	19:03 4.1				Tu	2	4:32 4.2	11:22 0.6	18:00 3.9							
	S	3	5:17 4.8	11:58 0.3	18:13 4.2						W	3	1:02 1.1	6:42 4.7	13:18 0.2	19:45 4.3				W	3	0:00 1.2	5:35 4.3	12:13 0.5	18:50 4.1							
	M	4	0:17 0.9	6:08 4.9	12:45 0.1	19:05 4.3					Th	4	1:50 1.0	7:27 4.8	14:00 0.1	20:20 4.4				Th	4	0:51 1.1	6:27 4.5	13:00 0.4	19:25 4.3							
	Tu	5	1:08 0.9	6:56 5.0	13:31 0.0	19:51 4.4					F	5	2:30 1.0	8:07 4.9	14:40 0.1	20:52 4.5				F	5	1:34 1.0	7:12 4.6	13:40 0.3	19:57 4.5							
	W	6	1:55 1.0	7:40 5.1	14:14 0.0	20:30 4.5					S	6	3:02 1.1	8:42 4.8	15:15 0.2	21:20 4.6				S	6	2:10 0.9	7:50 4.7	14:16 0.3	20:24 4.6							
	Th	7	2:37 1.1	8:20 5.0	14:56 0.0	21:08 4.5					S	7	3:32 1.1	9:17 4.8	15:48 0.4	21:50 4.7				S	7	2:38 0.9	8:23 4.8	14:47 0.4	20:50 4.8							
	F	8	3:15 1.2	8:58 4.9	15:37 0.1	21:43 4.5					M	8	4:03 1.1	9:50 4.7	16:20 0.5	22:22 4.8				M	8	3:05 0.8	8:55 4.8	15:16 0.5	21:18 4.9							
	S	9	3:53 1.3	9:37 4.8	16:16 0.3	22:20 4.5					Tu	9	4:35 1.1	10:20 4.6	16:48 0.7	22:57 4.8				Tu	9	3:33 0.8	9:27 4.8	15:42 0.6	21:48 5.0							
	S	10	4:32 1.4	10:13 4.6	16:54 0.5	22:55 4.5					W	10	5:10 1.1	11:00 4.5	17:18 0.9	23:32 4.8				W	10	4:08 0.7	9:58 4.8	16:08 0.7	22:18 4.9							
	A	M	11	5:12 1.5	10:50 4.4	17:32 0.7	23:34 4.5				Th	11	5:52 1.1	11:40 4.4	17:50 1.1				Th	11	4:37 0.7	10:35 4.7	16:36 0.9	22:53 4.9								
	E C	Tu	12	5:55 1.5	11:30 4.3	18:10 0.9					F	12	0:10 4.7	6:42 1.1	12:25 4.3	18:32 1.2				F	12	5:17 0.7	11:13 4.6	17:08 1.1	23:33 4.8							
W		13	0:14 4.5	6:43 1.4	12:13 4.2	18:52 1.1				S	13	0:56 4.6	7:39 1.0	13:18 4.2	19:23 1.4				S	13	6:05 0.8	11:57 4.4	17:48 1.3									
Th		14	0:58 4.5	7:37 1.3	13:08 4.1	19:34 1.2				S	14	1:50 4.6	8:42 0.9	14:28 4.0	20:23 1.5				S	14	0:17 4.7	7:00 0.9	12:51 4.2	18:42 1.5								
F		15	1:46 4.5	8:30 1.2	14:00 4.0	20:25 1.3				M	15	2:50 4.6	9:43 0.7	15:34 4.0	21:41 1.4				M	15	1:10 4.5	8:05 0.9	13:55 4.1	19:56 1.6								
S		16	2:38 4.5	9:26 1.0	15:04 4.0	21:18 1.3				Tu	16	3:55 4.7	10:44 0.5	16:48 4.2	22:55 1.2				Tu	16	2:15 4.4	9:12 0.8	15:08 4.1	21:22 1.5								
S		17	3:33 4.6	10:22 0.7	16:12 4.1	22:19 1.2				W	17	5:02 4.9	11:42 0.1	17:53 4.5	23:59 0.9				W	17	3:27 4.5	10:18 0.6	16:24 4.3	22:38 1.2								
M		18	4:32 4.8	11:15 0.8	17:17 4.3	23:20 1.0				Th	18	6:02 5.2	12:35 -0.2	18:49 5.0				Th	18	4:38 4.7	11:17 0.3	17:30 4.6	23:43 0.8									
Tu		19	5:30 5.1	12:06 0.0	18:16 4.6					F	19	0:55 0.5	6:59 5.5	13:25 -0.5	19:40 5.3				F	19	5:43 5.0	12:12 0.0	18:27 5.1									
W		20	0:15 0.8	6:25 5.3	12:58 -0.3	19:10 4.9				S	20	1:46 0.2	7:51 5.7	14:15 -0.6	20:28 5.6				S	20	0:38 0.4	6:40 5.4	13:08 -0.3	19:17 5.5								
Th		21	1:10 0.7	7:12 5.6	13:46 -0.5	20:00 5.2				S	21	2:37 0.0	8:40 5.9	15:04 -0.7	21:13 5.8				S	21	1:28 0.0	7:33 5.7	13:51 -0.5	20:02 5.8								
P		F	22	2:00 0.5	8:07 5.7	14:36 -0.6	20:43 5.4				M	22	3:28 -0.1	9:28 5.8	15:53 -0.6	21:59 5.8				M	22	2:18 -0.3	8:20 5.8	14:38 -0.6	20:47 6.0							
		S	23	2:51 0.4	8:55 5.7	15:25 -0.6	21:35 5.5				Tu	23	4:18 -0.1	10:15 5.7	16:40 -0.3	22:45 5.8				Tu	23	3:06 -0.4	9:08 5.8	15:25 -0.4	21:32 6.0							
	S	24	3:45 0.4	9:45 5.7	16:15 -0.5	22:23 5.5				W	24	5:12 0.0	11:04 5.4	17:31 0.1	23:32 5.5				W	24	3:55 -0.4	9:55 5.7	16:13 -0.1	22:15 5.8								
	M	25	4:40 0.4	10:34 5.5	17:06 -0.3	23:12 5.5				Th	25	6:08 0.2	11:55 5.0	18:27 0.5				Th	25	4:45 -0.3	10:43 5.4	17:03 0.3	23:02 5.5									
	Tu	26	5:37 0.5	11:24 5.2	17:58 0.0					F	26	0:22 5.2	7:09 0.4	12:50 4.6	19:23 0.9				F	26	5:40 0.0	11:32 5.0	17:58 0.7	23:48 5.1								
	W	27	0:02 5.3	6:38 0.6	12:17 4.9	18:56 0.4				S	27	1:15 4.8	8:12 0.6	13:56 4.1	20:37 1.2				S	27	6:38 0.3	12:27 4.5	19:08 1.1									
	Th	28	0:54 5.1	7:40 0.7	13:15 4.5	19:51 0.6				S	28	2:16 4.4	9:18 0.7	15:17 3.8	21:50 1.3				S	28	0:42 4.7	7:43 0.5	13:32 4.1	20:17 1.3								
	F	29	1:50 4.8	8:43 0.7	14:22 4.2	21:00 0.9													M	29	1:42 4.3	8:50 0.7	14:50 3.8	21:34 1.4								
	S	30	2:50 4.6	9:46 0.6	15:40 3.9	22:05 1.1													Tu	30	2:51 4.1	9:55 0.8	16:17 8.7	22:42 1.4								
	S	31	3:52 4.5	10:47 0.6	17:02 3.9	23:10 1.1													W	31	4:05 4.0	10:54 0.7	17:24 3.9	23:40 1.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A E C	Th	1	5:10 4.1	11:45 0.7	18:10 4.1	. . .	. . .	. . .	S	1	5:30 4.1	11:48 0.7	17:56 4.5	. . .	. . .	. . .	Tu	1	0:12 0.5	6:12 4.3	12:17 0.9	18:20 5.0				
	F	2	0:25 1.1	6:05 4.3	12:30 0.6	18:47 4.4		E	S	2	0:23 0.8	6:14 4.3	12:25 0.7	18:30 4.7			W	2	0:48 0.3	6:53 4.5	12:52 0.9	19:00 5.2							
	S	3	1:04 0.9	6:48 4.5	13:08 0.5	19:17 4.6		M	3	0:55 0.6	6:32 4.5	13:00 0.7	19:03 4.9			○	Th	3	1:28 0.0	7:35 4.6	13:28 0.9	19:40 5.3							
	S	4	1:35 0.8	7:25 4.6	13:41 0.5	19:46 4.8		Tu	4	1:26 0.4	7:28 4.6	13:30 0.7	19:37 5.1			s	F	4	2:08 -0.1	8:16 4.8	14:05 0.9	20:20 5.3							
	M	5	2:03 0.6	7:57 4.7	14:09 0.5	20:15 4.9		○	W	5	2:00 0.2	8:02 4.7	14:00 0.7	20:10 5.2			S	5	2:50 -0.1	9:00 4.9	14:46 0.9	21:03 5.3							
	Tu	6	2:32 0.5	8:28 4.8	14:37 0.6	20:43 5.0		Th	6	2:33 0.1	8:38 4.8	14:30 0.8	20:45 5.2			s	S	6	3:37 -0.1	9:44 4.9	15:33 1.0	21:46 5.1							
	W	7	3:02 0.4	9:02 4.8	15:03 0.7	21:13 5.1		F	7	3:12 0.1	9:17 4.8	15:03 0.9	21:22 5.2			M	7	4:23 0.0	10:32 4.9	16:28 1.2	22:33 5.0								
	Th	8	3:34 0.3	9:35 4.8	15:31 0.8	21:47 5.1		S	8	3:52 0.1	9:56 4.8	15:43 1.0	22:00 5.0			Tu	8	5:15 0.2	11:18 4.8	17:30 1.3	23:23 4.7								
	F	9	4:10 0.4	10:12 4.8	16:02 0.9	22:23 5.0		s	S	9	4:35 0.3	10:40 4.7	16:25 1.2	22:45 4.8			W	9	6:10 0.4	12:15 4.7	18:40 1.3								
	S	10	4:53 0.5	10:53 4.6	16:37 1.1	23:03 4.8		M	10	5:25 0.4	11:30 4.6	17:21 1.4	23:32 4.6			○	Th	10	0:18 4.5	7:10 0.5	13:13 4.6	19:50 1.2							
S C P E	S	11	5:39 0.6	11:40 4.5	17:25 1.3	23:48 4.6		Tu	11	6:23 0.6	12:25 4.5	18:34 1.5				F	11	1:19 4.4	8:10 0.6	14:13 4.7	20:57 1.0								
	M	12	6:35 0.8	12:34 4.3	18:26 1.5		○	W	12	0:28 4.4	7:25 0.7	13:26 4.4	19:57 1.5			E	S	12	2:28 4.3	9:08 0.6	15:13 4.8	21:56 0.8							
	Tu	13	0:43 4.5	7:40 0.9	13:38 4.2	19:51 1.6		Th	13	1:33 4.8	8:30 0.7	14:34 4.3	21:12 1.3			P	S	13	3:37 4.3	10:05 0.6	16:12 4.7	22:51 0.5							
	W	14	1:48 4.3	8:49 0.8	14:50 4.2	21:17 1.5		F	14	2:45 4.2	9:33 0.6	15:39 4.6	22:15 0.9			M	14	4:44 4.4	11:00 0.6	17:05 5.0	23:43 0.2								
	Th	15	3:03 4.3	9:53 0.6	16:02 4.4	22:28 1.1		S	15	3:57 4.3	10:30 0.5	16:38 4.9	23:10 0.5			Tu	15	5:45 4.5	11:55 0.6	17:58 5.2									
	F	16	4:17 4.5	10:53 0.4	17:05 4.8	23:27 0.6		E	S	16	5:05 4.5	11:22 0.3	17:32 5.2			W	16	0:30 0.0	6:40 4.6	12:46 0.6	18:46 5.4								
	S	17	5:23 4.8	11:47 0.1	17:58 5.2			M	17	0:00 0.1	6:02 4.8	12:12 0.3	18:22 5.5			●	Th	17	1:18 -0.2	7:30 4.7	13:35 0.7	19:32 5.4							
	S	18	0:18 0.2	6:20 5.2	12:37 -0.1	18:49 5.5		Tu	18	0:47 -0.2	6:53 5.1	13:02 0.2	19:08 5.7			N	F	18	2:05 -0.3	8:18 4.8	14:22 0.8	20:17 5.4							
	M	19	1:07 -0.2	7:12 5.4	13:25 -0.2	19:35 5.8		●	W	19	1:34 -0.4	7:43 5.2	13:48 0.2	19:53 5.7			S	19	2:52 -0.3	9:02 4.8	15:07 1.0	21:00 5.2							
	●	Tu	20	1:55 -0.5	8:00 5.6	14:10 -0.2	20:18 5.9		Th	20	2:21 -0.5	8:29 5.2	14:34 0.4	20:37 5.7			S	20	3:38 -0.2	9:46 4.7	15:57 1.1	21:44 5.0							
N D A	W	21	2:42 -0.6	8:47 5.6	14:57 -0.1	21:08 5.9		F	21	3:08 -0.5	9:15 5.1	15:22 0.6	21:22 5.5			M	21	4:25 0.0	10:30 4.6	16:50 1.3	22:27 4.8								
	Th	22	3:30 -0.5	9:34 5.5	15:45 0.2	21:47 5.7		N	S	22	3:58 -0.3	10:03 5.0	16:13 0.9	22:06 5.2			Tu	22	5:13 0.3	11:15 4.5	17:45 1.4	23:10 4.5							
	F	23	4:19 -0.4	10:22 5.2	16:35 0.6	22:32 5.4		S	23	4:52 -0.1	10:51 4.7	17:10 1.2	22:51 4.9			W	23	6:03 0.5	12:01 4.4	18:42 1.5	23:56 4.2								
	S	24	5:12 -0.1	11:12 4.9	17:33 1.0	23:18 5.0		M	24	5:42 0.2	11:42 4.5	18:15 1.4	23:39 4.5			Th	24	6:53 0.8	12:46 4.4	19:36 1.5									
	S	25	6:08 0.2	12:04 4.5	18:38 1.3			Tu	25	6:38 0.5	12:36 4.3	19:24 1.5			A	F	25	0:45 4.0	7:41 0.9	13:35 4.3	20:28 1.4								
	M	26	0:10 4.6	7:10 0.5	13:05 4.2	19:54 1.5		D	W	26	0:31 4.2	7:07 0.7	13:32 4.1	20:30 1.5			E	S	26	1:37 3.9	8:28 1.1	14:23 4.4	21:16 1.3						
	Tu	27	1:05 4.2	8:15 0.7	14:13 3.9	21:08 1.5		Th	27	1:20 4.0	8:03 0.8	14:32 4.1	21:28 1.4			S	27	2:35 3.9	9:13 1.2	15:12 4.4	22:02 1.1								
	W	28	2:12 4.0	9:17 0.8	15:27 3.9	22:12 1.4		A	F	28	2:33 3.8	9:25 0.9	15:25 4.1	22:17 1.3			M	28	3:35 3.9	9:58 1.2	16:00 4.5	22:45 0.8							
	Th	29	3:26 3.9	10:15 0.8	16:28 4.0	23:05 1.2		E	S	29	3:40 3.8	10:13 0.9	16:13 4.3	22:58 1.1			Tu	29	4:33 4.0	10:45 1.2	16:50 4.7	23:31 0.5							
	A	F	30	4:33 3.9	11:05 0.8	17:16 4.2	23:48 1.0		S	30	4:37 4.0	10:56 1.0	16:58 1.5	23:35 0.8			W	30	5:29 4.1	11:33 1.1	17:40 4.9								
								M	31	5:26 4.1	11:37 0.9	17:40 4.7																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart. Unless a minus (-) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th meridian, W. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S	Th	1	0:15 0.2	6:21 4.4	12:18 1.0	18:28 5.1	O	S	1	1:23 —0.3	7:37 5.0	13:36 0.6	19:43 5.5	P	W	1	2:35 —0.6	8:47 5.8	15:00 —0.1	21:02 5.8												
	F	2	1:01 0.0	7:10 4.6	13:04 0.9	19:15 5.3		M	2	2:12 —0.5	8:24 5.3	14:26 0.5	20:32 5.6		Th	2	3:23 —0.6	9:32 5.9	15:50 —0.2	21:50 5.7												
	S	3	1:46 —0.2	7:57 4.8	13:50 0.9	20:02 5.4		Tu	3	3:00 —0.5	9:10 5.4	15:18 0.4	21:20 5.6		F	3	4:10 —0.6	10:18 5.8	16:41 —0.1	22:38 5.5												
	S	4	2:32 —0.3	8:43 5.0	14:36 0.8	20:47 5.4		W	4	3:48 —0.4	9:57 5.5	16:12 0.3	22:08 5.5		S	4	5:00 0.0	11:05 5.6	17:37 0.1	23:29 5.1												
	M	5	3:20 —0.3	9:30 5.1	15:29 0.8	21:35 5.3		Th	5	4:37 —0.3	10:40 5.5	17:07 0.4	22:58 5.3		S	5	5:55 0.4	11:53 5.3	18:35 0.3	24:15 0.0												
P	Tu	6	4:08 —0.2	10:17 5.1	16:25 0.9	22:23 5.2	E	F	6	5:28 0.0	11:33 5.4	18:04 0.5	23:49 5.0	C	M	6	6:23 4.7	12:23 0.8	19:03 4.9	25:05 0.5												
	W	7	5:00 0.0	11:07 5.1	17:25 0.9	22:13 5.0		S	7	6:23 0.3	12:23 5.2	19:03 0.6	25:05 0.0		Tu	7	7:25 4.3	13:23 1.1	20:03 4.6	26:05 0.6												
	Th	8	5:53 0.2	11:58 5.1	18:28 0.9	24:02 5.0		S	8	7:19 4.7	13:17 0.6	20:07 5.0	26:05 0.6		W	8	8:24 4.0	14:20 1.3	21:03 4.3	27:05 0.6												
	F	9	6:06 4.7	12:04 0.4	18:34 5.0	19:32 0.9		M	9	8:15 4.3	14:13 0.9	21:10 4.7	27:05 0.6		Th	9	9:09 3.8	15:12 1.2	22:03 4.2	28:05 0.6												
	S	10	7:04 4.5	13:07 0.6	19:37 4.9	20:33 0.9		Tu	10	9:10 4.0	15:17 1.1	22:13 4.6	28:05 0.6		F	10	10:05 5.25	16:15 1.1	23:09 4.3	29:05 0.5												
C	S	11	8:08 4.3	14:15 0.7	20:45 4.8	21:45 0.7	W	W	11	10:07 3.9	16:20 1.1	23:12 4.5	28:12 0.5	N	S	11	11:05 4.2	17:28 1.0	24:07 1.5	29:15 0.0												
	M	12	11:07 4.1	17:15 0.9	23:45 4.8	24:45 0.5		Th	12	12:05 4.0	18:10 1.1	24:05 4.6	29:15 0.4		S	12	12:05 0.38	18:10 0.4	25:00 4.4	30:15 4.7												
	Tu	13	13:05 4.2	19:15 0.9	25:45 4.8	26:45 0.4		F	13	13:05 0.3	19:10 4.1	25:10 1.0	30:15 4.8		M	13	14:05 0.3	20:15 4.5	26:05 0.8	31:15 4.8												
	W	14	15:05 4.2	21:15 0.9	27:45 4.9	28:45 0.0		S	14	15:05 0.2	21:10 4.3	27:10 1.0	31:15 4.8		Tu	14	16:05 0.3	22:15 4.7	27:05 0.8	32:15 4.8												
	Th	15	17:05 0.2	23:15 4.3	29:45 0.9	30:45 5.0		S	15	17:05 0.1	23:10 4.5	29:10 0.9	32:15 4.9		W	15	18:05 0.4	24:15 4.8	28:05 0.7	33:15 4.8												
N	F	16	19:05 0.0	25:15 4.4	31:45 0.9	32:45 5.1	M	M	16	19:05 0.1	25:10 4.6	31:10 1.0	32:15 4.9	E	Th	16	20:05 0.6	26:15 4.9	32:05 0.7	34:15 4.7												
	S	17	21:05 —0.1	27:15 4.5	33:45 1.0	34:45 5.1		Tu	17	21:05 0.2	27:10 4.7	33:10 1.0	34:15 4.8		F	17	22:05 0.6	28:15 4.9	33:05 0.7	35:15 4.7												
	S	18	23:05 —0.1	29:15 4.6	35:45 1.1	36:45 5.0		W	18	23:05 0.3	29:10 4.7	35:10 1.0	36:15 4.7		S	18	24:05 0.8	30:15 4.9	34:05 0.7	36:15 4.6												
	M	19	25:05 0.0	31:15 4.6	37:45 1.2	38:45 4.9		Th	19	25:05 0.5	31:10 4.8	37:10 1.0	38:15 4.6		S	19	26:05 4.17	32:15 1.0	35:05 4.8	37:15 22:56												
	Tu	20	27:05 0.2	33:15 4.6	39:45 1.2	40:45 4.7		F	20	27:05 0.7	33:10 4.8	39:10 1.0	40:15 4.5		M	20	28:05 4.47	34:15 1.1	36:05 4.7	38:15 23:38												
A	W	21	29:05 0.4	35:15 4.6	41:45 1.3	42:45 4.5	S	S	21	29:05 0.9	35:10 4.7	41:10 1.1	42:15 4.4	D	Tu	21	30:05 5.25	36:15 1.3	37:05 4.6	39:15 0.9												
	Th	22	31:05 5.21	37:15 11.21	43:45 17.50	44:45 23.20		S	22	31:05 1.1	37:10 11.53	43:10 18.25	44:15 24.05		W	22	31:05 4.2	37:15 1.5	38:05 4.4	40:15 19:38												
	F	23	33:05 6.02	39:15 12.00	45:45 18.35	46:45 24.00		M	23	33:05 4.2	39:10 6.14	45:10 12.35	46:15 19.38		Th	23	32:05 4.1	38:15 1.7	39:05 4.4	41:15 20:44												
	S	24	35:05 4.2	41:15 1.1	47:45 4.5	48:45 1.3		Tu	24	35:05 4.1	41:10 1.5	47:10 4.5	48:15 1.0		F	24	33:05 4.1	39:15 1.6	40:05 4.4	42:15 21:50												
	M	25	37:05 4.1	43:15 1.3	49:45 4.5	50:45 1.3		W	25	37:05 4.0	43:10 1.6	49:10 4.4	50:15 0.9		S	25	34:05 4.2	40:15 1.3	41:05 4.5	43:15 0.4												
D	M	26	39:05 1.40	45:15 1.4	51:45 4.5	52:45 1.0	S	Th	26	39:05 4.0	45:10 1.5	51:10 4.5	52:15 0.6	P	S	26	40:05 5.00	46:15 1.5	52:45 17.14	53:45 23:43												
	Tu	27	41:05 3.9	47:15 1.4	53:45 4.5	54:45 0.8		F	27	41:05 4.1	47:10 1.3	53:10 4.7	54:15 0.3		M	27	42:05 5.57	48:15 12.10	54:45 18.13	55:45 24:43												
	W	28	43:05 8.9	49:15 1.4	55:45 4.7	56:45 0.5		S	28	43:05 4.4	49:10 1.0	55:10 5.0	56:15 0.0		Tu	28	44:05 —0.2	50:15 5.4	56:45 0.0	57:45 5.5												
	Th	29	45:05 4.1	51:15 1.2	57:45 4.9	58:45 0.2		S	29	45:05 0.0	51:10 4.8	57:10 0.6	58:15 5.3		W	29	46:05 —0.4	52:15 5.8	58:45 —0.3	59:45 5.8												
	F	30	47:05 5.51	53:15 11.51	59:45 17.59	60:45 24.00		M	30	47:05 —0.3	53:10 5.2	59:10 13.20	60:15 19.25		Th	30	48:05 —0.5	54:15 6.20	60:45 14.38	61:45 20:42												
S	S	31	49:05 —0.1	55:15 4.3	61:45 0.8	62:45 5.3	C	Tu	31	49:05 —0.5	55:10 5.6	61:10 14.10	62:15 20.15																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the sounding given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th Meridian, W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N	F	1	2:57	9:06	15:27	21:30				M	1	4:09	10:10	16:47	22:49				W	1	4:47	10:33	17:17	23:22					
			—0.4	6.0	—0.5	5.8						0.4	5.6	—0.3	5.1						1.0	5.1	0.0	4.7					
	S	2	3:44	9:50	16:17	22:18				N	Tu	2	5:05	10:57	17:42	23:42				Th	2	5:48	11:21	18:13					
			—0.2	5.9	—0.4	5.5						0.8	5.2	0.0	4.7						1.2	4.8	0.3						
	S	3	4:34	10:36	17:10	23:08					W	3	6:10	11:48	18:43					F	3	0:15	6:57	12:13	19:13				
C			0.2	5.7	—0.2	5.2						1.2	4.8	0.3							4.5	1.4	4.4	0.5					
	M	4	5:28	11:25	18:07				☾	Th	4	0:42	7:26	12:44	19:48				☾	S	4	1:10	8:04	13:09	20:10				
			0.6	5.3	0.1							4.4	1.4	4.4	0.5						4.3	1.4	4.1	0.7					
	Tu	5	0:02	6:32	12:15	19:10					F	5	1:48	8:43	13:49	20:53				S	5	2:09	9:07	14:13	21:05				
			4.8	1.0	4.9	0.4						4.1	1.4	4.1	0.7						4.2	1.3	3.9	0.8					
E	W	6	1:03	7:46	13:13	20:18					S	6	3:02	9:51	15:03	21:52				E	M	6	3:05	10:04	15:20	21:58			
			4.3	1.3	4.5	0.6						4.0	1.3	3.9	0.7						4.2	1.2	3.8	0.9					
	Th	7	2:18	9:04	14:22	21:25					S	7	4:06	10:47	16:16	22:45				A	Tu	7	3:57	10:47	16:23	22:44			
			4.0	1.4	4.2	0.7						4.0	1.2	3.9	0.7						4.3	1.1	3.8	1.0					
	F	8	3:42	10:18	15:38	22:28					M	8	4:59	11:35	17:17	23:33					W	8	4:48	11:27	17:18	23:26			
K			3.8	1.3	4.0	0.7						4.2	1.0	4.0	0.7						4.4	0.9	3.9	1.1					
	S	9	4:55	11:18	16:50	23:23				A	Tu	9	6:41	12:12	18:08					Th	9	5:27	12:04	18:03					
			4.0	1.2	4.1	0.6						4.4	0.8	4.2							4.6	0.7	4.1						
	S	10	5:48	12:08	17:48						W	10	0:12	6:18	12:46	18:43					F	10	0:10	6:07	12:40	18:45			
			4.2	1.0	4.3							0.7	4.6	0.6	4.4						1.0	4.8	0.4	4.2					
A	M	11	0:12	6:30	12:50	18:37					Th	11	0:52	6:52	13:18	19:18					S	11	0:45	6:46	13:18	19:25			
			0.6	4.4	0.8	4.4						0.8	4.8	0.4	4.5						1.1	5.0	0.2	4.4					
	Tu	12	0:52	7:03	13:23	19:14			●	F	12	1:23	7:23	13:48	19:52				●	S	12	1:20	7:25	13:56	20:04				
			0.5	4.6	0.7	4.6						0.8	5.0	0.3	4.6						1.1	5.1	0.0	4.5					
	W	13	1:28	7:33	13:53	19:48					S	13	1:50	7:55	14:22	20:25					M	13	1:55	8:05	14:35	20:45			
●			0.5	4.8	0.6	4.6						0.9	5.1	0.2	4.6						1.0	5.2	—0.1	4.7					
	Th	14	1:58	8:01	14:21	20:18					S	14	2:18	8:29	14:57	21:00				S	Tu	14	2:30	8:45	15:17	21:26			
			0.6	4.9	0.5	4.7						1.0	5.1	0.1	4.7						1.0	5.2	—0.1	4.8					
	F	15	2:25	8:28	14:50	20:49					M	15	2:47	9:05	15:34	21:40					W	15	3:10	9:26	16:00	22:10			
			0.7	5.0	0.4	4.7						1.0	5.1	0.1	4.7						1.1	5.1	0.0	4.9					
S	S	16	2:50	8:58	15:20	21:20				S	Tu	16	3:18	9:41	16:13	22:21					Th	16	3:59	10:10	16:47	22:55			
			0.8	5.0	0.4	4.7						1.1	5.0	0.3	4.2						1.1	5.0	0.2	4.8					
	S	17	3:14	9:30	15:54	21:57					W	17	3:58	10:21	16:58	23:05					F	17	4:54	10:56	17:37	23:45			
			0.9	5.0	0.4	4.7						1.2	4.8	0.4	4.6						1.2	4.8	0.3	4.8					
	M	18	3:40	10:03	16:32	22:35					Th	18	4:48	11:06	17:50	23:58					S	18	5:57	11:47	18:32				
T			1.0	4.9	0.5	4.6						1.4	4.6	0.6	4.5						1.3	4.6	0.5						
	Tu	19	4:13	10:40	17:15	23:19					F	19	5:54	11:58	18:48				☾	S	19	0:38	7:06	12:43	19:28				
			1.2	4.8	0.6	4.5						1.5	4.5	0.7							4.8	1.3	4.4	0.7					
	W	20	4:55	11:24	18:07				☾	S	20	0:55	7:12	12:57	19:54				E	M	20	1:35	8:14	13:45	20:28				
			1.4	4.6	0.8							4.4	1.6	4.3	0.8						4.7	1.2	4.3	0.8					
D	Th	21	0:09	6:52	12:15	19:08					S	21	1:57	8:30	14:05	20:56					Tu	21	2:34	9:17	14:54	21:27			
			4.4	1.5	4.4	0.9						4.5	1.4	4.2	0.7						4.8	0.9	4.2	0.8					
	F	22	1:08	7:12	13:15	20:16					M	22	3:02	9:40	15:17	21:53					W	22	3:33	10:16	16:05	22:25			
			4.2	1.7	4.3	0.9						4.6	1.1	4.3	0.6						4.8	0.6	4.3	0.8					
	S	23	2:17	8:41	14:27	21:22				E	Tu	23	4:03	10:37	16:28	22:50				P	Th	23	4:30	11:10	17:12	23:23			
P			4.2	1.6	4.3	0.7						4.8	0.7	4.5	0.5						4.9	0.3	4.4	0.7					
	S	24	3:28	9:56	15:42	22:22					W	24	5:00	11:30	17:30	23:42					F	24	5:27	12:04	18:14				
			4.3	1.2	4.4	0.5						5.1	0.2	4.8	0.3						5.1	0.0	4.5						
	M	25	4:32	10:58	16:52	23:16				P	Th	25	5:52	12:20	18:26					S	25	0:18	6:20	12:54	19:08				
			4.7	0.8	4.7	0.3						5.4	—0.1	5.0							0.7	5.3	—0.2	4.7					
E	Tu	26	5:30	11:50	17:52						F	26	0:35	6:43	13:10	19:18				☾	S	26	1:12	7:10	13:45	19:57			
			5.1	0.3	5.0							0.2	5.3	—0.4	5.2						0.6	5.5	—0.4	4.9					
	W	27	0:07	6:20	12:40	18:45				☾	S	27	1:23	7:30	13:57	20:07				N	M	27	2:02	7:57	14:32	20:45			
			0.0	5.5	—0.1	5.4						0.2	5.8	—0.6	5.3						0.7	5.5	—0.5	4.9					
	Th	28	0:57	7:08	13:28	19:36					S	28	2:10	8:16	14:45	20:55					Tu	28	2:50	8:43	15:19	21:29			
P			—0.1	5.8	—0.5	5.6						0.3	5.8	—0.6	5.2						0.8	5.4	—0.4	4.9					
	F	29	1:44	7:54	14:15	20:24				N	M	29	3:00	9:00	15:34	21:43					W	29	3:38	9:28	16:06	22:13			
			—0.2	6.0	—0.7	5.7						0.5	5.7	—0.6	5.1						0.9	5.3	—0.2	4.9					
	S	30	2:31	8:38	15:04	21:11					Tu	30	3:50	9:47	16:25	22:32					Th	30	4:30	10:12	16:53	22:58			
			—0.1	6.0	—0.7	5.6						0.7	5.5	—0.3	5.0						1.0	5.1	0.0	4.8					
O	S	31	3:18	9:24	15:54	21:59														F	31	5:23	10:57	17:42					

JANUARY.						FEBRUARY.						MARCH.								
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.						
O N	F 1	0:54 1.7	7:05 22.3	13:28 1.5	19:40 21.7	N	M 1	2:35 2.8	8:44 21.8	15:10 1.7	21:24 20.8	N	M 1	1:08 3.5	7:20 21.0	13:45 2.6	20:03 20.0			
	S 2	1:56 1.9	8:06 22.5	14:29 1.1	20:20 21.7		Tu 2	3:34 2.7	9:40 22.0	16:05 1.4	22:18 20.9		Tu 2	2:15 3.6	8:24 21.0	14:48 2.5	21:05 20.1			
	S 3	2:54 1.8	9:04 22.8	15:26 0.8	21:40 21.8		W 3	4:27 2.5	10:32 22.1	16:55 1.1	23:09 21.1		W 3	3:17 3.4	9:22 21.1	15:45 2.1	22:00 20.5			
	M 4	3:50 1.7	9:56 23.0	16:20 0.4	22:34 21.8		Th 4	5:14 2.4	11:18 22.2	17:40 1.0	23:52 21.2		Th 4	4:10 3.0	10:15 21.4	16:35 1.8	22:48 20.9			
	Tu 5	4:40 1.7	10:47 23.0	17:10 0.2	23:22 21.8		F 5	6:00 2.3	12:04 22.0	18:20 1.2			F 5	4:58 2.6	11:00 21.6	17:20 1.6	23:29 21.1			
	W 6	5:28 1.7	11:35 22.9	17:57 0.3			S 6	6:30 21.2	12:36 2.5	18:40 21.7	18.58 1.5		S 6	5:36 2.4	11:45 21.7	17:56 1.6				
	Th 7	6:08 21.7	12:14 2.0	18:18 22.6	0.6		S 7	7:05 21.1	13:12 2.8	19:16 21.4	19:32 1.8		A 7	6:05 21.3	12:12 2.4	18:30 21.6	18:30 1.7			
	F 8	6:50 21.4	13:00 2.4	19:20 22.1	1.0		A M 8	7:45 21.0	14:00 3.0	20:00 21.0	20:05 2.2		M 8	6:38 21.4	12:48 2.4	19:00 21.4	19:00 1.9			
	S 9	1:30 21.1	7:35 2.8	13:40 21.5	19:58 1.7		E Tu 9	8:20 21.0	14:25 3.1	20:20 20.8	20:40 2.6		Tu 9	1:05 21.5	7:16 2.4	13:20 21.4	19:30 2.1			
	S 10	2:10 20.8	8:14 3.3	14:20 20.8	20:38 2.2		W 10	2:50 21.0	9:00 3.1	15:05 20.6	15:20 2.9		W 10	1:38 21.6	7:48 2.4	13:52 21.4	20:05 2.4			
A	M 11	2:48 20.5	8:54 3.6	15:00 20.3	21:18 2.8	Th 11	3:30 20.9	9:40 3.2	15:46 20.4	22:00 3.3	Th 11	2:14 21.6	8:25 2.4	14:28 21.2	20:40 2.7					
	Tu 12	3:30 20.3	9:38 3.8	15:42 19.9	22:00 3.3	F 12	4:10 20.6	10:28 3.3	16:34 20.2	22:47 3.7	F 12	2:50 21.3	9:02 2.5	15:12 21.0	21:23 3.1					
	W 13	4:12 20.2	10:24 4.0	16:27 19.7	22:45 3.7	C S 13	5:00 20.4	11:18 3.5	17:26 20.0	23:40 4.0	S 13	3:32 21.0	9:50 2.7	15:56 20.6	22:10 3.5					
	Th 14	5:00 20.1	11:12 4.0	17:16 19.5	23:32 3.9	S 14	5:54 20.5	12:16 3.4	18:25 20.0		C S 14	4:20 20.8	10:42 3.0	16:52 20.2	23:04 4.0					
	F 15	5:45 20.0	12:05 3.8	18:08 19.6		M 15	6:37 4.0	12:54 20.8	18:18 3.0	19:26 20.3	M 15	5:17 20.6	11:42 3.1	17:55 20.1						
	S 16	6:25 4.0	12:38 20.3	18:00 3.5	19:05 19.9	S Tu 16	7:14 3.7	13:12 21.4	18:18 2.2	20:28 21.0	Tu 16	6:05 4.1	12:18 20.7	18:00 2.9	19:00 20.3					
	S 17	1:20 3.8	7:30 20.8	13:55 3.0	20:02 20.4	W 17	2:40 2.9	8:50 22.3	15:18 1.1	21:28 21.9	W 17	1:12 3.8	7:25 21.2	13:52 2.2	20:04 21.0					
	M 18	2:15 3.4	8:25 21.5	14:50 2.1	20:57 21.1	Th 18	3:40 1.8	9:49 23.3	16:12 -0.1	22:22 23.0	Th 18	2:18 2.9	8:28 22.2	14:54 1.2	21:05 22.2					
	Tu 19	3:10 2.7	9:18 22.4	15:45 1.0	21:52 21.9	F 19	4:35 0.6	10:44 24.4	17:06 -1.1	23:14 24.1	F 19	3:18 1.6	9:30 23.3	15:52 -0.1	22:02 23.5					
	S W 20	4:02 1.9	10:10 23.3	16:36 0.0	22:43 22.7	● S 20	5:25 -0.4	11:34 25.2	17:54 -1.8		S 20	4:15 0.2	10:26 24.5	16:45 -1.3	22:54 24.7					
P	Th 21	4:52 1.1	11:00 24.1	17:25 -0.9	23:34 23.4	● P S 21	6:02 24.8	12:14 -1.2	18:25 -2.2	18:42 -2.2	P S 21	5:06 -1.1	11:15 25.4	17:44 -2.0	23:40 25.6					
	F 22	5:43 0.4	11:52 24.7	18:14 -1.4		E M 22	6:52 25.3	13:04 -1.6	19:15 25.7	19:28 -2.3	M 22	5:55 -2.0	12:05 26.0	18:20 -2.4						
	S 23	6:24 24.1	12:40 -0.2	18:40 24.9	19:02 -1.7	Tu 23	7:40 25.6	13:52 -1.5	20:02 25.3	20:18 -1.7	Tu 23	6:30 26.1	12:44 -2.4	18:00 26.1	19:07 -2.2					
	S 24	1:10 24.4	7:20 -0.4	13:30 24.9	19:50 -1.6	W 24	2:30 25.1	8:44 -1.2	14:55 24.7	21:10 -0.8	W 24	1:16 26.0	7:30 -2.8	13:43 25.6	19:54 -1.5					
	M 25	2:00 24.5	8:10 -0.4	14:22 24.5	20:40 -1.2	Th 25	3:20 24.5	9:36 -0.6	15:50 23.6	22:02 0.3	Th 25	2:04 25.3	8:20 -1.7	14:32 24.6	20:42 -0.6					
	Tu 26	2:52 24.2	9:05 -0.1	15:15 23.9	21:34 -0.5	J F 26	4:14 23.4	10:34 0.4	16:45 22.3	23:00 1.6	F 26	2:55 24.4	9:12 -0.7	15:25 23.3	21:35 0.8					
	W 27	3:46 23.8	10:00 0.2	16:12 23.4	22:28 0.4	S 27	5:12 22.3	11:35 1.4	17:48 21.1		S 27	3:48 23.2	10:08 0.4	16:22 21.9	22:34 2.1					
	Th 28	4:40 23.2	10:58 0.8	17:10 22.4	23:26 1.4	S 28	6:02 2.8	12:15 21.5	18:40 2.2	18:55 20.3	S 28	4:45 21.9	11:10 1.7	17:23 20.7	23:35 3.4					
	F 29	5:40 22.5	12:00 1.4	18:14 21.6		N	M 29	5:48 20.9	12:12 2.6	18:32 19.9		M 29	5:48 4.0	12:12 20.3	18:32 3.1	19:38 19.6				
	S 30	6:28 2.2	12:40 22.0	18:04 1.7	19:18 21.0												Tu 30	6:44 4.0	13:20 20.3	19:30 3.1	20:40 19.9
S 31	7:12 2.7	13:42 21.8	19:08 1.9	20:22 20.7	W 31												7:42 4.1	14:23 20.2	20:40 3.0	21:40 19.9

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty charts for this region, and which is 11.9 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is International Standard, 60th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 13:47 is 1:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	2:54 8.8	8:58 20.5	15:20 2.7	21:32 20.3					S	1	3:10 8.5	9:15 20.2	15:30 8.0	21:40 20.7					Tu	1	3:52 2.6	9:55 20.6	16:06 2.8	22:11 21.6						
	F	2	3:48 3.8	9:50 20.8	16:08 2.3	22:18 20.8					E S	2	3:55 3.0	10:00 20.6	16:12 2.6	22:18 21.2					W	2	4:30 1.9	10:35 21.2	16:45 2.5	22:50 22.1						
	S	3	4:30 2.8	10:34 21.1	16:48 2.1	22:57 21.2					M	3	4:34 2.4	10:38 21.0	16:48 2.4	22:52 21.6					Th	3	5:10 1.8	11:15 21.6	17:25 2.2	23:30 22.5						
	S	4	5:08 2.4	11:15 21.4	17:25 2.0	23:30 21.6					Tu	4	5:08 2.0	11:12 21.4	17:22 2.2	23:25 21.9					F	4	5:50 0.8	11:55 22.0	18:05 2.0							
	M	5	5:42 2.2	11:45 21.5	17:56 2.0						W	5	5:40 1.6	11:45 21.6	17:55 2.1	23:58 22.2					S	5	6:08 22.8	6:30 0.4	12:35 22.2	18:45 1.9						
E	Tu	6	6:02 21.7	6:12 2.0	12:18 21.6	18:28 2.0					Th	6	6:15 1.3	12:20 21.8	18:25 2.1					S	6	6:50 23.0	7:14 0.2	13:20 22.8	19:27 2.0							
	W	7	6:30 21.8	6:45 1.8	12:50 21.7	18:57 2.1					F	7	6:32 22.4	6:54 1.0	12:56 21.9	19:05 2.2					M	7	7:35 22.9	8:00 0.4	14:10 22.2	20:18 2.1						
	Th	8	7:05 21.9	7:17 1.7	13:22 21.7	19:30 2.3					S	8	7:12 22.4	7:30 1.0	13:38 21.8	19:44 2.4					Tu	8	8:24 22.6	8:50 0.6	15:00 22.0	21:06 2.3						
	F	9	7:38 21.9	7:55 1.7	14:00 21.6	20:10 2.5					S	9	7:54 22.2	8:18 1.1	14:25 21.6	20:28 2.7					W	9	9:20 22.2	9:42 1.0	15:55 21.8	22:05 2.5						
	S	10	8:15 21.7	8:35 1.8	14:42 21.3	20:54 2.9					M	10	8:40 21.9	9:04 1.5	15:15 21.8	21:20 3.1					Th	10	10:40 21.8	10:40 1.5	16:54 21.7	23:06 2.5						
S	S	11	8:04 21.4	9:22 2.1	15:32 20.9	21:42 3.4					Tu	11	8:34 21.5	10:00 1.8	16:10 20.9	22:20 3.4					F	11	11:40 21.6	11:40 1.7	17:54 21.8							
	M	12	8:50 21.1	10:18 2.5	16:28 20.5	22:38 3.8					W	12	9:32 21.1	10:58 2.2	17:10 20.8	23:24 3.4					S	12	13:10 2.2	13:10 2.1	18:40 21.6	18:55 22.1						
	Tu	13	4:50 20.8	11:17 2.7	17:30 20.3	23:40 4.0					Th	13	5:36 21.0	12:00 2.3	18:18 21.1					S	13	1:15 1.7	7:25 21.9	13:42 1.5	19:53 22.7							
	W	14	5:55 20.8	12:22 2.7	18:35 20.6						F	14	6:30 3.0	6:42 21.3	13:05 1.9	19:20 21.8					M	14	2:16 1.0	8:27 22.4	14:45 1.1	20:52 23.3						
	Th	15	6:50 3.6	7:02 21.2	13:00 2.1	19:42 21.4					S	15	7:36 2.2	7:46 22.0	14:18 1.2	20:18 22.7					Tu	15	3:15 0.2	9:25 22.8	15:36 0.7	21:45 23.9						
P	F	16	1:58 2.6	8:07 22.1	14:30 1.2	20:42 22.5					S	16	2:38 1.0	8:47 22.9	15:06 0.4	21:15 23.7					W	16	4:10 -0.5	10:22 23.1	16:30 0.4	22:35 24.3						
	S	17	3:00 1.3	9:06 23.2	15:30 0.0	21:38 23.7					M	17	3:34 -0.2	9:45 23.9	16:00 -0.3	22:07 24.6					Th	17	5:00 -1.0	11:10 23.2	17:20 0.4	23:25 24.4						
	S	18	3:55 -0.2	10:04 24.3	16:22 -1.0	22:30 24.8					Tu	18	4:26 -1.2	10:36 24.4	16:48 -0.8	22:56 25.2					F	18	5:50 -1.1	12:00 23.1	18:06 0.6							
	M	19	4:45 -1.4	10:56 25.2	17:10 -1.6	23:20 25.6					W	19	5:15 -1.9	11:26 24.6	17:36 -0.8	23:45 25.3					S	19	6:14 24.1	6:35 -0.9	12:46 22.7	18:52 1.1						
	Tu	20	5:38 -2.3	11:46 25.7	17:57 -1.9						Th	20	6:04 -2.0	12:14 24.4	18:23 -0.5					S	20	7:22 23.6	7:22 -0.4	13:34 22.2	19:40 1.7							
N	W	21	0:05 25.9	6:22 -2.6	12:34 25.6	18:44 -1.5					F	21	0:30 25.1	6:52 -1.7	13:04 23.8	19:10 0.1					M	21	8:05 22.8	8:05 0.4	14:20 21.7	20:25 2.4						
	Th	22	0:55 25.7	7:11 -2.3	13:23 24.9	19:30 -0.9					S	22	1:20 24.4	7:40 -1.1	13:50 23.0	20:00 1.0					Tu	22	9:24 21.9	9:24 1.3	15:06 21.0	21:30 3.0						
	F	23	1:40 25.0	8:00 -1.6	14:11 23.9	20:18 0.2					S	23	2:06 23.4	8:28 -0.1	14:42 22.1	20:48 2.0					W	23	9:40 20.9	9:40 2.2	15:54 20.5	22:02 3.6						
	S	24	2:30 24.0	8:50 -0.6	15:05 22.7	21:10 1.4					M	24	3:00 22.2	9:20 1.0	15:34 21.1	21:40 3.0					Th	24	10:30 20.2	10:30 3.0	16:42 20.1	22:55 4.1						
	S	25	3:20 22.7	9:44 0.7	15:58 21.4	22:06 2.7					Tu	25	3:50 21.1	10:14 2.1	16:27 20.3	22:37 3.7					F	25	5:00 19.6	11:20 3.6	17:32 19.8	23:46 4.3						
D	M	26	4:20 21.5	10:42 1.9	16:57 20.4	23:06 3.7					W	26	4:46 20.2	11:08 3.0	17:25 19.8	23:36 4.7					S	26	5:52 19.2	12:10 4.0	18:24 19.8							
	Tu	27	5:20 20.4	11:44 2.8	18:02 19.7						Th	27	5:45 19.5	12:06 3.6	18:20 19.6						S	27	6:40 4.4	6:45 19.1	13:00 4.2	19:12 19.9						
	W	28	6:15 4.3	6:23 19.8	12:46 3.4	19:05 19.5					F	28	6:36 4.4	6:44 19.3	13:04 3.8	19:16 19.7					M	28	7:36 4.0	7:36 19.4	13:51 4.0	20:00 20.3						
	Th	29	7:26 4.4	7:26 19.7	13:50 3.5	20:02 19.7					S	29	7:38 4.2	7:38 19.4	13:55 3.8	20:05 20.1					Tu	29	8:26 3.5	8:26 19.8	14:40 3.7	20:48 20.8						
	F	30	8:24 4.0	8:24 19.9	14:42 3.2	20:58 20.2					S	30	8:30 3.8	8:30 19.7	14:45 3.5	20:50 20.5					W	30	9:15 2.8	9:15 20.2	15:26 3.3	21:34 21.6						
A											M	31	9:10 3.2	9:15 20.2	15:25 3.2	21:32 21.1																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 11.9 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Intercolonial Standard, 60th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.					
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
S	Th 1	8:58 2.0	10:02 21.0	16:12 2.7	22:20 22.3	O	S 1	5:05 -0.1	11:13 22.7	17:22 1.0	23:30 24.0	P	W 1	0:00 25.3	6:18 -1.9	12:27 25.2	18:38 -1.5
	F 2	4:40 1.1	10:48 21.6	16:56 2.2	23:03 22.9		M 2	5:52 -0.8	11:59 23.5	18:08 0.3	24:00 ...		E Th 2	0:48 25.6	7:05 -2.1	13:14 25.6	19:25 -1.7
	S 3	5:26 0.4	11:45 22.2	17:40 1.7	23:48 23.4		Tu 3	0:18 24.5	6:38 -1.3	12:47 24.1	18:57 -0.2		F 3	1:37 25.5	7:51 -1.8	14:02 25.4	20:13 -1.5
	S 4	6:14 -0.2	12:18 22.7	18:26 1.3	...		W 4	1:05 24.8	7:25 -1.5	13:36 24.4	19:45 -0.4		S 4	2:27 25.0	8:40 -1.1	14:50 24.9	21:07 -0.9
	M 5	0:25 23.7	6:57 -0.6	13:06 23.0	19:11 1.1		Th 5	1:55 24.6	8:13 -1.2	14:24 24.3	20:35 -0.3		S 5	3:18 24.0	9:31 0.0	15:44 23.8	22:02 0.0
P	Tu 6	1:24 23.8	7:44 -0.6	13:54 23.1	20:00 1.0	E	F 6	2:45 24.2	9:03 -0.7	15:15 24.0	21:27 0.0	C	M 6	4:15 22.8	10:27 1.8	16:39 22.7	23:02 1.0
	W 7	2:10 23.6	8:34 -0.3	14:44 23.1	20:52 1.1		S 7	3:40 23.6	9:55 0.1	16:07 23.6	22:25 0.5		Tu 7	5:15 21.5	11:29 2.5	17:42 21.8	...
	Th 8	3:05 23.2	9:24 0.1	15:37 22.8	21:48 1.3		S 8	4:37 22.8	10:52 1.1	17:04 22.7	23:25 1.1		N W 8	0:05 1.9	6:22 20.6	12:35 3.8	18:47 21.2
	F 9	4:00 22.7	10:20 0.7	16:34 22.7	22:50 1.4		M 9	5:37 21.8	11:52 2.0	18:05 22.1	...		Th 9	1:13 2.4	7:32 20.2	13:45 8.5	19:56 21.0
	S 10	4:58 22.2	11:16 1.3	17:30 22.5	23:45 1.5		Tu 10	0:29 1.7	6:42 21.1	12:56 2.7	19:06 21.8		F 10	2:20 2.3	8:37 20.8	14:50 3.3	20:56 21.2
C	S 11	6:00 22.0	12:15 1.7	18:30 22.3	...	N	W 11	1:34 1.9	7:48 20.7	14:03 3.0	20:12 21.8	S	S 11	3:21 2.0	9:35 20.7	15:48 2.8	21:53 21.6
	M 12	0:52 1.5	7:04 21.6	13:18 2.0	19:30 22.4		Th 12	2:38 1.8	8:54 20.7	15:06 2.8	21:12 22.0		S 12	4:15 1.6	10:27 21.1	16:38 2.3	22:43 21.9
	Tu 13	1:55 1.3	8:06 21.6	14:20 2.0	20:30 22.6		F 13	3:39 1.4	9:53 21.0	16:03 2.4	22:08 22.3		M 13	5:02 1.3	11:12 21.5	17:22 2.0	23:27 22.0
	W 14	2:55 1.0	9:10 21.7	15:20 1.8	21:28 23.0		S 14	4:33 1.0	10:45 21.4	16:54 2.0	23:00 22.5		Tu 14	5:42 1.3	11:51 21.8	18:00 1.9	...
	Th 15	3:50 0.5	10:05 21.9	16:15 1.5	22:20 23.2		S 15	5:21 0.7	11:32 21.6	17:40 1.8	23:45 22.6		W 15	0:05 22.0	6:18 1.4	12:24 21.8	18:34 2.0
N	F 16	4:45 0.1	10:58 22.0	17:05 1.4	23:12 23.3	M	M 16	6:04 0.7	12:16 21.7	18:22 1.9	...	E	Th 16	0:40 21.7	6:49 1.7	12:55 21.7	19:05 2.1
	S 17	5:35 -0.1	11:48 22.1	17:52 1.5	...		Tu 17	0:27 22.3	6:44 0.9	12:52 21.7	19:00 2.1		F 17	1:10 21.5	7:20 2.1	13:25 21.6	19:35 2.3
	S 18	0:00 23.2	6:20 0.0	12:30 22.0	18:38 1.7		W 18	1:05 22.0	7:18 1.3	13:27 21.5	19:35 2.4		S 18	1:41 21.3	7:52 2.5	13:56 21.4	20:10 2.4
	M 19	0:44 22.9	7:04 0.3	13:15 21.8	19:20 2.0		Th 19	1:39 21.5	7:53 1.8	14:00 21.8	20:09 2.7		S 19	2:15 21.0	8:25 2.9	14:32 21.1	20:47 2.7
	Tu 20	1:28 22.3	7:44 0.9	13:56 21.5	20:00 2.5		F 20	2:14 21.1	8:28 2.3	14:35 21.2	20:45 2.9		M 20	2:53 20.7	9:03 3.4	15:12 20.8	21:30 3.0
A	W 21	2:09 21.7	8:25 1.5	14:35 21.2	20:42 2.9	S	S 21	2:50 22.8	9:04 2.9	15:12 20.9	21:25 3.1	D	Tu 21	3:38 20.3	9:48 3.9	15:58 20.4	22:20 3.3
	Th 22	2:50 21.0	9:05 2.2	15:16 20.8	21:24 3.3		S 22	3:30 20.4	9:44 3.5	15:52 20.5	22:09 3.4		W 22	4:29 19.9	10:40 4.3	16:52 20.2	23:16 3.5
	F 23	3:30 20.4	9:45 2.9	16:00 20.5	22:10 3.7		M 23	4:15 19.9	10:27 4.0	16:37 20.1	22:57 3.8		Th 23	5:27 19.6	11:37 4.6	17:52 20.2	...
	S 24	4:14 19.9	10:30 3.5	16:40 20.2	22:55 4.0		Tu 24	5:04 19.6	11:18 4.4	17:30 20.0	23:52 3.9		F 24	0:19 3.4	6:30 19.8	12:43 4.3	18:57 20.6
	S 25	5:00 19.5	11:16 4.0	17:26 19.9	23:45 4.1		W 25	6:00 19.4	12:14 4.6	18:27 20.0	...		S 25	1:24 2.8	7:35 20.4	13:50 3.5	20:00 21.4
D	M 26	5:50 19.3	12:05 4.3	18:18 19.9	...	S	Th 26	0:58 3.6	7:02 19.6	13:15 4.4	19:27 20.6	O	S 26	2:27 1.9	8:37 21.5	14:53 2.3	21:00 22.5
	Tu 27	0:40 4.0	6:45 19.3	13:00 4.4	19:12 20.2		F 27	1:55 3.0	8:04 20.2	14:17 8.7	20:27 21.4		M 27	3:25 0.7	9:34 22.9	15:48 0.8	21:58 23.8
	W 28	1:35 3.7	7:40 19.6	13:55 4.2	20:05 20.7		S 28	2:54 2.0	9:03 21.1	15:17 2.7	21:24 22.5		Tu 28	4:18 -0.5	10:27 24.2	16:42 -0.6	22:50 24.9
	Th 29	2:30 3.0	8:38 20.2	14:50 3.6	21:00 21.5		S 29	3:50 0.8	9:58 22.3	16:10 1.4	22:20 23.6		W 29	5:08 -1.5	11:15 25.2	17:30 -1.7	23:40 25.7
	F 30	3:25 2.0	9:32 21.0	15:43 2.8	21:50 22.4		M 30	4:42 -0.4	10:50 23.5	17:02 0.2	23:10 24.6		Th 30	5:55 -2.1	12:02 25.8	18:18 -2.3	...
S 31	4:15 0.9	10:23 21.9	16:33 1.9	22:40 23.3	C Tu 31	5:32 -1.3	11:38 24.5	17:54 -0.8	...								

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 ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
	F 1	0:28	6:42	12:50	19:05		M 1	1:46	7:55	14:04	20:25		W 1	2:20	8:26	14:37	20:58
		26.1	-2.2	26.0	-2.5			24.4	-0.3	24.7	-1.3			22.8	1.3	23.2	0.1
	S 2	1:17	7:28	13:37	19:54	N	Tu 2	2:38	8:45	14:57	21:20		Th 2	3:12	9:19	15:30	21:50
		25.8	-1.8	25.7	-2.1			23.3	0.8	23.5	-0.1			21.9	2.2	22.0	1.1
	S 3	2:06	8:15	14:25	20:45		W 3	3:33	9:42	15:53	22:15		F 3	4:07	10:16	16:25	22:47
		25.0	-1.0	24.8	-1.3			22.2	2.0	22.2	1.0			21.1	3.0	21.0	2.1
	M 4	2:58	9:08	15:20	21:40	C	Th 4	4:33	10:42	16:53	23:17	C	S 4	5:08	11:15	17:25	23:44
		23.8	0.3	23.7	-0.2			21.1	3.0	21.1	2.1			20.5	3.5	20.2	2.9
N	Tu 5	3:54	10:08	16:17	22:40		F 5	5:36	11:47	17:57			S 5	6:00	12:16	18:24	
		22.5	1.6	22.5	1.0			20.3	3.7	20.4				20.2	3.9	19.7	
C	W 6	4:55	11:05	17:18	23:43		S 6	0:21	6:40	12:55	19:03	E	M 6	0:42	6:56	13:15	19:22
		21.2	2.8	21.4	2.1			2.8	20.0	3.9	20.1			3.4	20.1	4.0	19.6
	Th 7	6:01	12:13	18:25			S 7	1:24	7:40	13:57	20:03	A	Tu 7	1:37	7:48	14:08	20:13
		20.3	3.6	20.7				3.1	20.1	3.6	20.1			3.6	20.2	3.7	19.7
	F 8	0:50	7:10	13:23	19:32		M 8	2:22	8:33	14:51	20:57		W 8	2:27	8:36	14:57	21:02
		2.7	20.0	3.8	20.5			3.0	20.5	3.3	20.4			3.6	20.5	3.3	19.9
	S 9	1:58	8:13	14:30	20:35		A Tu 9	3:15	9:20	15:39	21:43		Th 9	3:12	9:18	15:41	21:45
		2.8	20.2	3.6	20.7			2.8	20.9	2.7	20.7			3.5	20.8	2.9	20.1
	S 10	2:57	9:10	15:35	21:30		W 10	3:57	10:02	16:20	22:25		F 10	3:55	9:59	16:20	22:25
		2.5	20.6	3.1	21.0			2.7	21.3	2.4	20.9			3.3	21.0	2.4	20.5
	M 11	3:48	9:58	16:14	22:18		Th 11	4:36	10:40	16:58	23:02		S 11	4:33	10:38	16:58	23:02
		2.2	21.0	2.5	21.3			2.5	21.5	2.1	21.0			3.1	21.5	2.0	20.8
	Tu 12	4:34	10:41	16:55	23:00	●	F 12	5:11	11:15	17:32	23:80	●	S 12	5:11	11:15	17:37	23:42
		1.9	21.5	2.1	21.5			2.6	21.6	1.9	21.0			2.9	21.9	1.5	21.1
E	W 13	5:12	11:17	17:32	23:36		S 13	5:43	11:46	18:04			M 13	5:48	11:52	18:15	
A		1.9	21.7	2.0	21.5			2.6	21.8	1.7				2.8	22.2	1.1	
●	Th 14	5:46	11:50	18:03			S 14	0:06	6:15	12:18	18:38	S	Tu 14	0:20	6:27	12:32	18:55
		2.0	21.8	1.9				21.1	2.7	21.8	1.5			21.4	2.6	22.4	0.9
	F 15	0:08	6:17	12:29	18:34		M 15	0:43	6:48	12:53	19:16		W 15	1:02	7:08	13:15	19:38
		21.4	2.2	21.7	1.9			21.2	2.8	21.9	1.5			21.7	2.5	22.4	0.8
	S 16	0:38	6:47	12:49	19:05	S	Tu 16	1:20	7:26	13:33	19:57		Th 16	1:46	7:53	14:01	20:25
		21.3	2.4	21.6	1.9			21.3	3.0	21.8	1.5			21.8	2.5	22.3	0.9
	S 17	1:10	7:17	13:22	19:40		W 17	2:03	8:10	14:17	20:42		F 17	2:34	8:42	14:50	21:15
		21.2	2.7	21.5	2.0			21.2	3.1	21.6	1.7			21.8	2.5	22.1	1.1
	M 18	1:44	7:52	13:59	20:17		Th 18	2:50	8:57	15:07	21:32		S 18	3:27	9:35	15:45	22:08
		21.0	3.0	21.4	2.1			21.0	3.3	21.3	2.0			21.8	2.5	21.8	1.4
	Tu 19	2:24	8:32	14:39	21:02		F 19	3:43	9:50	16:02	22:28		S 19	4:22	10:33	16:44	23:06
		20.9	3.3	21.1	2.4			20.8	3.5	21.0	2.3			21.8	2.5	21.6	1.7
S	W 20	3:10	9:17	15:28	21:52	D	S 20	4:42	10:52	17:08	23:28	E	M 20	5:20	11:35	17:45	
		20.6	3.7	20.7	2.7			20.8	3.5	20.9	2.4			21.8	2.3	21.5	
	Th 21	4:03	10:10	16:32	22:48		S 21	5:43	11:57	18:07			Tu 21	0:06	6:20	12:38	18:48
		20.2	4.1	20.5	3.0			21.0	3.2	21.1				1.8	22.0	1.9	21.7
D	F 22	5:02	11:12	17:24	23:53		M 22	0:31	6:45	13:02	19:12		W 22	1:07	7:18	13:41	19:50
		20.1	4.2	20.4	3.0			2.2	21.5	2.5	21.6			1.8	22.4	1.3	22.1
	S 23	6:05	12:18	18:30		E	Tu 23	1:34	7:45	14:04	20:13	P	Th 23	2:07	8:17	14:42	20:50
		20.2	4.0	20.7				1.8	22.3	1.5	22.4			1.5	23.0	0.6	22.5
	S 24	0:57	7:10	13:25	19:35		W 24	2:32	8:43	15:03	21:12		F 24	3:05	9:13	15:38	21:48
		2.5	20.9	3.2	21.5			1.0	23.3	0.3	23.4			1.0	23.7	-0.2	22.9
	M 25	2:00	8:12	14:19	20:38	P	Th 25	3:27	9:36	15:57	22:07		S 25	4:00	10:08	16:33	22:43
		1.7	22.0	1.9	22.6			0.2	24.3	-0.8	24.1			0.6	24.2	-0.9	23.2
	Tu 26	2:59	9:08	15:27	21:35		F 26	4:19	10:28	16:50	22:58	C	S 26	4:53	11:00	17:23	23:35
		0.7	23.2	0.4	23.7			-0.5	25.0	-1.7	24.5			0.3	24.5	-1.3	23.3
E	W 27	3:53	10:00	16:18	22:27	O	S 27	5:12	11:18	17:39	23:49	N	M 27	5:42	11:50	18:13	
		-0.4	24.4	-0.9	24.8			-0.8	25.4	-2.1	24.5			0.3	24.6	-1.3	
P	Th 28	4:43	10:52	17:10	23:18		S 28	5:58	12:07	18:28			Tu 28	0:25	6:31	12:39	19:00
C		-1.2	25.3	-2.0	25.5			-0.7	25.5	-2.1				23.2	0.5	24.2	-1.0
	F 29	5:32	11:39	17:58		N	M 29	0:38	6:47	12:55	19:17		W 29	1:12	7:19	13:28	19:48
		-1.8	25.9	-2.5				24.2	-0.3	25.0	-1.8			22.9	0.9	23.6	-0.5
	S 30	0:07	6:18	12:27	18:45		Tu 30	1:28	7:35	13:45	20:17		Th 30	2:00	8:07	14:15	20:35
		25.6	-1.7	26.0	-2.6			23.6	0.4	24.2	-1.0			22.4	1.5	22.8	0.4
	S 31	0:57	7:05	13:14	19:34								F 31	2:47	8:55	15:04	21:22
		25.2	-1.2	25.5	-2.2									21.9	2.2	21.9	1.3

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JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	0:01 0.1	6:19 9.1	12:41 -0.1	18:56 8.6	N	M	1	1:44 0.8	7:55 9.1	14:27 -0.1	20:51 8.1	N	M	1	0:19 1.1	6:31 8.7	18:05 0.2	19:29 7.8												
	S	2	1:02 0.3	7:17 9.3	13:44 -0.3	20:00 8.5		Tu	2	2:44 0.7	8:52 9.3	15:22 -0.3	21:48 8.2		Tu	2	1:26 1.1	7:36 8.8	14:09 0.2	20:34 7.9												
	S	3	2:01 0.3	8:14 9.5	14:41 -0.5	21:01 8.5		W	3	3:39 0.7	9:44 9.3	16:11 -0.4	22:36 8.3		W	3	2:30 1.0	8:35 8.9	15:04 0.1	21:28 8.1												
	M	4	2:58 0.3	9:07 9.6	15:35 -0.7	21:56 8.5		Th	4	4:27 0.6	10:31 9.3	16:57 -0.4	23:19 8.3		Th	4	3:24 0.8	9:29 9.0	15:51 -0.1	22:14 8.3												
	Tu	5	3:49 0.4	9:58 9.7	16:25 -0.8	22:48 8.5		○	F	5	5:11 0.6	11:14 9.2	17:37 -0.4		23:56 8.3	○	F	5	4:10 0.7	10:15 9.0	16:34 -0.2	22:52 8.4										
	W	6	4:38 0.5	10:45 9.7	17:11 -0.8	23:38 8.4		S	6	5:51 0.7	11:53 9.0	18:13 -0.3	...		○	S	6	4:51 0.6	10:56 9.0	17:11 -0.1	23:27 8.5											
	Th	7	5:23 0.6	11:29 9.5	17:55 -0.6	...		S	7	6:30 8.3	12:27 0.8	18:45 8.8	-0.1		A	S	7	5:29 0.6	11:31 8.8	17:43 0.0	23:56 8.5											
	F	8	6:16 8.3	12:11 0.8	18:35 9.3	-0.5		A	M	8	7:00 8.3	13:04 0.8	19:08 8.5		0.1	M	8	6:00 0.5	12:04 8.7	18:13 0.1	...											
	S	9	6:55 8.1	12:51 1.0	19:14 8.9	-0.2		E	Tu	9	7:35 8.3	13:39 0.8	19:51 8.3		0.3	E	Tu	9	6:24 8.6	12:35 0.4	18:41 8.6	0.3										
	S	10	7:31 8.0	13:28 1.1	19:53 8.6	0.0		W	10	8:04 8.3	14:15 0.8	20:26 8.2	0.6		W	10	6:58 8.6	13:09 0.4	19:12 8.6	0.4												
	A	M	11	8:09 8.0	14:12 1.2	20:30 8.2		0.3	Th	11	8:41 8.4	14:56 0.8	21:04 8.1		0.8	Th	11	7:24 8.7	13:48 0.8	19:47 8.4	0.5											
	Tu	12	8:48 8.0	14:50 1.3	21:10 7.9	0.6		F	12	9:21 8.4	15:38 0.8	21:48 7.9	1.0		F	12	8:00 8.6	14:22 0.8	20:25 8.2	0.7												
E	W	13	9:29 8.0	15:35 1.3	21:52 7.7	0.9	○	S	13	10:00 8.4	16:24 0.7	22:38 7.7	1.2	○	S	13	8:40 8.6	15:09 0.3	21:11 8.0	0.9												
○	Th	14	10:11 8.1	16:24 1.3	22:38 7.7	1.1	S	14	10:40 8.4	17:04 0.6	23:35 7.6	1.3	○	S	14	9:20 8.5	16:01 0.3	22:08 7.8	1.2													
F	15	10:59 8.1	17:16 1.1	23:27 7.6	1.2	M	15	11:20 8.5	17:48 0.3	24:24 7.7	...	M	15	8:00 8.5	16:50 0.3	22:58 7.7	1.3															
S	16	11:48 8.2	18:17 0.8	24:17 7.6	...	S	Tu	16	12:00 1.2	18:32 0.8	25:12 0.0	7.9	S	Tu	16	8:40 8.5	17:40 0.2	23:47 7.7	...													
S	17	12:30 1.1	19:04 8.5	25:04 0.4	7.7	W	17	12:40 0.9	19:16 9.3	26:00 -0.5	8.4	W	17	9:20 1.2	18:30 8.7	24:37 -0.1	19:18 8.0															
M	18	13:14 1.0	19:52 8.9	25:51 -0.1	8.0	Th	18	13:20 0.4	20:00 9.8	26:48 -1.1	8.9	Th	18	10:00 0.9	19:10 9.2	25:25 -0.5	20:19 8.6															
Tu	19	14:00 0.8	20:40 9.4	26:38 -0.6	8.4	F	19	14:00 -0.1	20:50 10.3	27:35 -1.5	9.5	F	19	10:40 0.8	20:00 9.7	26:15 -1.0	21:15 9.2															
S	W	20	14:40 0.5	21:30 9.8	27:25 -1.1	8.8	●	S	20	14:40 -0.6	21:30 10.6	28:20 -1.9	10.0	●	S	20	11:20 -0.4	21:50 10.2	27:05 -1.5	9.9												
●	Th	21	15:20 0.1	22:10 10.2	28:10 -1.5	9.1	●	S	21	15:20 -1.0	22:10 10.8	29:10 -2.0	...	●	S	21	12:00 -1.0	22:40 10.6	27:55 -1.7	10.4												
F	22	16:00 -0.2	22:50 10.5	28:55 -1.8	9.4	E	M	22	16:00 10.3	22:50 -1.3	30:00 10.8	-1.9	E	M	22	12:40 -1.5	23:10 10.7	28:40 -1.8	10.7													
P	S	23	16:40 -0.5	23:30 10.6	-1.9	Tu	23	16:40 10.4	23:30 -1.5	30:50 10.5	-1.6	Tu	23	13:20 -1.8	23:50 10.8	29:30 -1.7	...															
S	24	17:20 9.7	24:10 -0.7	30:30 10.5	-1.8	W	24	17:20 10.4	24:10 -1.4	31:40 10.2	-1.2	W	24	14:00 10.7	24:40 -1.9	30:20 10.5	19:02 -1.4															
M	25	18:00 9.8	24:50 -0.8	31:20 10.3	-1.6	Th	25	18:00 10.1	24:50 -1.1	32:30 9.6	-0.6	Th	25	14:40 10.5	25:20 -1.7	31:10 10.0	19:51 -0.8															
E	Tu	26	18:40 9.8	25:30 -0.7	32:10 9.9	-1.2	○	F	26	18:40 9.6	25:30 -0.6	33:20 8.9	0.1	○	F	26	15:20 10.1	26:00 -1.2	32:00 9.3	20:44 -0.2												
W	27	19:20 9.7	26:10 -0.5	33:00 9.5	-0.6	S	27	19:20 9.2	26:10 -0.2	34:10 8.3	0.7	S	27	16:00 9.6	26:40 -0.7	32:50 8.6	21:41 0.5															
○	Th	28	19:50 9.5	26:40 -0.3	33:50 9.0	-0.1	S	28	20:00 8.9	26:50 0.1	35:00 7.9	...	○	S	28	16:40 9.1	27:20 -0.2	33:40 8.0	22:47 1.0													
F	29	20:30 9.2	27:20 -0.1	34:40 8.5	0.4								M	29	17:20 8.7	28:00 0.2	34:30 7.8	23:58 1.3														
S	30	21:10 9.0	28:00 0.0	35:30 8.2	...								Tu	30	18:00 8.5	28:40 0.3	35:20 7.7	...														
S	31	21:50 0.7	28:40 9.0	36:20 0.0	8.1								W	31	18:40 1.3	29:20 8.5	36:10 0.4	20:05 7.9														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day, a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	2:09 1.1	8:11 8.5	14:35 0.3	20:56 8.2	E	S	1	2:25 0.9	8:30 8.2	14:41 0.6	20:55 8.5	O	Tu	1	3:04 0.4	9:11 8.0	15:09 0.8	21:21 8.9												
	F	2	3:01 0.9	9:05 8.6	15:21 0.2	21:40 8.4		S	2	3:08 0.6	9:14 8.2	15:20 0.6	21:33 8.6		W	2	3:40 0.0	9:51 8.1	15:46 0.7	21:59 9.2												
	S	3	3:45 0.6	9:50 8.6	16:01 0.1	22:16 8.6		M	3	3:45 0.4	9:53 8.4	15:55 0.6	22:05 8.7		Th	3	4:20 -0.3	10:30 8.2	16:25 0.7	22:36 9.4												
	S	4	4:23 0.4	10:29 8.6	16:36 0.2	22:49 8.7		Tu	4	4:19 0.1	10:29 8.4	16:29 0.6	22:36 8.9		F	4	5:00 -0.6	11:10 8.4	17:04 0.6	23:18 9.5												
	M	5	4:56 0.3	11:01 8.6	17:09 0.3	23:18 8.8		W	5	4:50 -0.1	11:01 8.4	17:00 0.5	23:09 9.1		S	5	5:41 -0.8	11:52 8.5	17:45 0.6	23:57 9.6												
C	Tu	6	5:27 0.1	11:34 8.6	17:37 0.3	23:45 8.8	C	Th	6	5:27 -0.3	11:36 8.4	17:33 0.5	23:44 9.2	S	S	6	6:00 9.5	12:00 -1.0	17:50 8.5	24:00 0.6												
	W	7	5:58 0.0	12:05 8.6	18:08 0.3	23:57 8.8		F	7	6:04 -0.5	12:14 8.4	18:08 0.6	23:57 9.2		M	7	6:45 9.5	12:45 -1.0	18:27 8.5	24:19 0.6												
	Th	8	6:15 8.8	12:30 -0.1	18:39 8.5	23:38 0.5		S	8	6:21 9.2	12:44 -0.6	18:44 8.4	23:46 0.7		Tu	8	7:15 9.4	13:15 -0.9	18:57 8.5	24:30 0.7												
	F	9	6:49 8.9	12:57 -0.2	18:54 8.4	23:13 0.6		S	9	7:02 9.1	13:30 -0.6	19:31 8.3	23:13 0.8		W	9	7:57 9.2	14:07 -0.7	19:13 8.5	24:41 0.6												
	S	10	7:27 8.9	13:35 -0.2	19:58 8.2	22:48 0.8		M	10	7:50 9.0	14:00 -0.5	20:24 8.2	22:48 1.0		Th	10	8:25 9.0	14:37 -0.5	19:44 8.6	24:52 0.6												
S	S	11	8:10 8.8	14:15 -0.1	20:40 8.1	22:10 1.0	C	Tu	11	8:39 8.9	15:00 -0.8	21:24 8.1	22:10 1.1	E	F	11	9:40 8.8	15:00 -0.8	20:15 8.8	25:03 0.4												
	M	12	9:00 8.6	15:00 0.0	21:41 7.9	21:38 1.2		W	12	9:39 8.7	15:00 -0.2	21:23 8.1	22:09 1.0		S	12	10:30 8.8	16:00 -0.1	21:05 9.1	25:14 0.4												
	Tu	13	9:58 8.5	16:00 0.1	22:43 7.8	22:43 1.2		Th	13	10:43 8.6	16:12 -0.1	22:30 8.4	22:38 0.7		S	13	11:30 0.1	16:45 8.9	22:05 9.0	25:25 0.4												
	W	14	10:50 8.5	17:00 0.1	23:54 7.9	23:54 1.1		F	14	11:40 8.7	17:12 -0.1	23:41 8.8	23:41 0.7		M	14	12:30 -0.3	17:45 8.9	22:31 9.1	25:36 0.4												
	Th	15	11:40 8.7	18:00 -0.1	25:05 8.3	25:05 1.1		S	15	12:40 0.3	18:00 -0.3	24:51 8.9	24:51 0.8		Tu	15	13:20 -0.7	18:30 9.0	23:01 9.1	25:47 0.4												
P	F	16	1:01 0.6	7:13 9.0	13:39 -0.4	19:55 8.9	E	S	16	1:44 -0.3	7:55 9.8	14:09 -0.4	20:23 9.7	N	W	16	2:10 -1.0	8:34 9.0	15:31 -0.1	21:44 10.2												
	S	17	2:03 0.0	8:15 9.4	14:35 -0.8	20:50 9.6		M	17	2:40 -0.8	9:00 9.6	15:01 -0.6	21:14 10.1		Th	17	3:00 -1.2	9:00 8.9	16:22 0.0	22:33 10.2												
	S	18	2:59 -0.6	9:11 10.1	15:26 -1.2	21:40 10.1		Tu	18	3:38 -1.3	9:48 9.7	15:51 -0.7	22:03 10.4		F	18	4:00 -1.3	9:30 8.8	16:50 0.2	23:01 10.1												
	M	19	3:51 -1.3	10:05 10.3	16:16 -1.4	22:28 10.5		W	19	4:28 -1.6	10:40 9.7	16:40 -0.7	22:50 10.6		S	19	5:00 -1.2	10:30 8.7	17:40 0.4	23:11 10.1												
	Tu	20	4:42 -1.8	10:56 10.4	17:04 -1.4	23:14 10.7		Th	20	5:18 -1.7	11:30 9.5	17:29 -0.6	23:39 10.5		S	20	5:40 9.8	11:00 -1.0	18:10 8.5	23:31 10.6												
N	W	21	5:30 -2.0	11:46 10.3	17:51 -1.2	23:26 10.7	N	F	21	6:02 -1.6	12:20 9.8	18:17 -0.1	23:49 10.5	A	M	21	6:08 9.5	12:30 -0.7	18:20 8.8	23:50 10.9												
	Th	22	6:01 10.7	12:30 -1.9	18:36 9.9	23:38 10.8		S	22	6:27 10.2	12:40 -1.4	18:29 8.9	23:57 10.8		Tu	22	6:40 9.0	12:40 -0.3	18:30 8.1	24:00 1.1												
	F	23	6:49 10.4	13:00 -1.7	18:48 9.4	23:48 10.9		S	23	7:17 9.8	13:10 -1.0	18:40 8.5	24:00 1.0		W	23	7:00 8.6	12:50 0.0	18:40 8.0	24:00 1.2												
	S	24	7:39 10.0	13:30 -1.2	19:00 8.9	24:00 11.0		M	24	7:50 9.3	13:40 -0.5	18:50 8.2	24:10 1.0		Th	24	7:40 8.2	13:00 0.3	18:40 8.0	24:10 1.3												
	S	25	8:31 9.5	14:00 -0.7	19:30 8.3	24:30 11.1		Tu	25	8:30 8.8	14:10 -0.1	19:00 7.9	24:20 1.3		F	25	8:30 7.8	13:10 0.7	18:40 8.0	24:20 1.4												
D	M	26	9:24 8.9	14:30 -0.1	19:50 7.9	24:40 1.2	D	W	26	9:20 8.3	14:40 0.3	19:50 7.9	24:40 1.4	E	S	26	10:10 7.6	15:00 1.0	20:00 8.1	24:50 1.3												
	Tu	27	10:15 8.5	15:00 0.3	20:10 7.8	24:50 1.4		Th	27	11:00 8.0	15:10 8.4	20:10 7.9	24:50 1.4		S	27	11:00 7.6	15:10 1.1	20:10 8.2	24:50 1.3												
	W	28	11:00 8.2	15:30 0.5	20:30 7.8	25:00 1.4		F	28	11:50 7.8	15:20 0.7	20:20 8.0	25:00 1.4		M	28	11:50 1.1	15:20 7.6	20:20 8.1	24:50 1.3												
	Th	29	11:40 1.4	16:00 8.1	20:40 0.5	25:10 8.0		S	29	12:40 1.2	15:30 7.7	20:30 0.9	25:10 8.2		Tu	29	12:40 0.8	15:30 7.6	20:30 8.1	24:50 1.3												
	F	30	12:30 1.2	16:30 8.1	21:00 0.5	25:20 8.2		S	30	1:30 1.0	15:40 7.9	20:40 0.8	25:20 8.4		W	30	1:30 0.4	15:40 7.8	20:40 1.0	24:50 1.3												
							M	31	2:20 0.7	16:00 7.9	20:50 0.8	25:30 8.6																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.														
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.										W.	Mo.										W.	Mo.										
O	Th	1	3:04	9:16	15:10	21:25					○	S	1	4:11	10:25	16:21	22:35					P	W	1	5:24	11:38	17:43	23:56						
			-0.1	8.0	0.8	9.3								-1.1	8.8	0.1	10.2								-1.8	10.2	-1.3	10.7						
	F	2	8:49	10:01	15:54	22:10						M	2	4:59	11:14	17:11	23:25					E	Th	2	6:11	12:24	18:31							
			-0.5	8.2	0.7	9.6								-1.5	9.2	-0.2	10.3								-1.8	10.4	-1.5							
	S	3	4:34	10:48	16:39	22:55					P	Tu	3	5:47	12:01	18:01								F	3	0:46	6:59	13:16	19:22					
P			-0.9	8.5	0.5	9.9								-1.6	9.5	-0.5									10.6	-1.6	10.4	-1.4						
	S	4	5:20	11:34	17:26	23:42						W	4	0:15	6:34	12:49	18:52							S	4	1:39	7:49	14:01	20:17					
			-1.2	8.7	0.3	10.0								10.4	-1.7	9.7	-0.7								10.2	-1.2	10.1	-1.2						
	M	5	6:08	12:21	18:15						E	Th	5	1:05	7:23	13:39	19:44							S	5	2:31	8:40	14:53	21:13					
			-1.3	8.9	0.2									10.3	-1.5	9.8	-0.8									9.7	-0.6	9.8	-0.8					
C	Tu	6	0:30	6:56	13:10	19:06						F	6	1:57	8:13	14:29	20:39					☾	M	6	3:30	9:36	15:50	22:15						
			10.0	-1.3	9.0	0.1							10.0	-1.2	9.8	-0.7									9.0	0.0	9.4	-0.4						
	W	7	1:21	7:45	14:01	20:01						S	7	2:52	9:05	15:21	21:36							Tu	7	4:35	10:39	16:52	23:23					
			9.9	-1.2	9.1	0.0								9.6	-0.7	9.6	-0.5									8.4	0.6	9.0	-0.1					
	Th	8	2:14	8:37	14:53	20:59					☾	S	8	3:50	10:00	16:15	22:36										8.0	1.0	8.8					
N			9.6	-1.0	9.2	0.0								9.2	-0.3	9.4	-0.3									0.1	7.9	1.0	8.8					
	F	9	8:10	9:30	15:47	21:58						M	9	4:53	11:00	17:15	23:42									0.34	6:58	12:56	19:05					
			9.3	-0.7	9.2	0.0								8.6	0.3	9.2	-0.1									0.1	7.9	1.0	8.8					
	S	10	4:09	10:26	16:44	22:59						Tu	10	6:00	12:04	18:19											1:39	8:03	14:01	20:09				
			9.0	-0.3	9.2	0.0								8.2	0.6	9.1										0.1	8.0	0.9	8.9					
E	S	11	5:12	11:24	17:40							W	11	0:50	7:10	13:09	19:21									2:37	9:01	14:59	21:05					
			8.8	0.0	9.2									0.0	8.1	0.8	9.2									0.0	8.2	0.7	9.1					
	M	12	0:02	6:14	12:24	18:39					N	Th	12	1:54	8:16	14:11	20:21									3:23	9:50	15:49	21:54					
			-0.1	8.6	0.2	9.3								-0.1	8.1	0.7	9.3									-0.2	8.5	0.5	9.1					
	Tu	13	1:05	7:21	13:24	19:37								2:53	9:17	15:09	21:19									4:13	10:31	16:32	22:37					
A			-0.2	8.4	0.4	9.5								-0.2	8.2	0.6	9.4									-0.3	8.6	0.4	9.1					
	W	14	2:08	8:25	14:21	20:34								3:46	10:10	16:01	22:08					●	Tu	14	4:51	11:08	17:11	23:16						
			-0.4	8.4	0.4	9.6								-0.4	8.3	0.6	9.5									-0.2	8.7	0.3	8.9					
	Th	15	3:04	9:25	15:18	21:29					●	S	15	4:35	10:55	16:50	22:55									5:27	11:41	17:45	23:51					
			-0.6	8.4	0.4	9.8								-0.5	8.5	0.5	9.4									-0.1	8.7	0.3	8.7					
D	F	16	3:57	10:20	16:10	22:19						M	16	5:16	11:36	17:33	23:36					E	Th	16	5:59	12:10	18:17							
			-0.7	8.5	0.4	9.8								-0.4	8.5	0.5	9.2									0.1	8.7	0.3						
	S	17	4:48	11:10	17:00	23:07								5:55	12:13	18:11									0:24	6:29	12:39	18:49						
			-0.8	8.5	0.5	9.7								-0.3	8.5	0.6										8.6	0.4	8.6	0.4					
	S	18	5:34	11:55	17:47	23:53								0:16	6:31	12:46	18:49									0:56	7:00	13:10	19:23					
S			-0.7	8.4	0.6	9.5								9.0	-0.1	8.4	0.6									8.4	0.6	8.5	0.4					
	M	19	6:17	12:39	18:31					A	Th	19	0:54	7:05	13:19	19:24										1:30	7:31	13:44	20:00					
			-0.6	8.3	0.7									8.6	0.1	8.4	0.7									8.1	0.7	8.5	0.5					
	Tu	20	0:38	6:59	13:19	19:15								1:30	7:39	13:53	20:00									2:08	8:07	14:24	20:45					
			9.2	-0.4	8.3	0.8								8.4	0.4	8.4	0.8									8.0	1.0	8.4	0.5					
D	W	21	1:20	7:39	13:58	19:59								2:09	8:15	14:29	20:40									2:51	8:50	15:09	21:34					
			8.8	-0.1	8.2	0.9								8.2	0.7	8.3	0.8									7.7	1.2	8.3	0.6					
	Th	22	2:08	8:20	14:37	20:41								2:45	8:53	15:07	21:24									8:43	9:40	16:01	22:30					
			8.6	0.2	8.1	1.1								7.9	1.0	8.2	0.9									7.6	1.4	8.2	0.5					
	F	23	2:46	9:00	15:17	21:26					☽	M	23	3:29	9:32	15:51	22:11										4:41	10:40	17:01	23:31				
A			8.1	0.5	8.1	1.2								7.7	1.2	8.2	0.9									7.5	1.5	8.3	0.4					
	S	24	3:30	9:40	15:59	22:11								4:19	10:21	16:41	23:06									5:47	11:45	18:05						
			7.8	0.9	8.1	1.2								7.5	1.4	8.2	0.7									7.6	1.4	8.5						
	S	25	4:16	10:25	16:43	23:01								5:15	11:14	17:38										0:35	18:51	12:52	19:09					
			7.7	1.1	8.1	1.2								7.4	1.5	8.3										0.2	7.9	1.1	8.9					
D	M	26	5:05	11:11	17:31	23:52								0:05	6:16	12:15	18:35									1:35	7:52	13:54	20:09					
			7.5	1.2	8.2	1.0								0.6	7.5	1.4	8.6									-0.3	8.5	0.5	9.4					
	Tu	27	5:59	12:01	18:20									1:05	7:19	13:16	19:33									2:31	8:46	14:51	21:03					
			7.4	1.3	8.3									0.2	7.7	1.1	9.0									-0.8	9.1	-0.2	9.9					
	W	28	0:45	6:55	12:54	19:11								2:01	8:17	14:15	20:30									3:22	9:37	15:44	21:56					
S			0.7											-0.2	8.1	0.7	9.4									-1.3	9.8	-0.9	10.8					
	Th	29	1:39	7:50	13:47	20:05								2:56	9:12	15:11	21:24									4:11	10:25	16:34	22:46					
			0.3	7.7	1.1	9.0								-0.7	8.7	0.1	10.0									-1.6	10.3	-1.5	10.6					
	F	30	2:31	8:45	14:39	20:55								3:48	10:02	16:03	22:16									5:00	11:10	17:22	23:36					
			-0.1	8.0	0.8	9.4																												

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N	F	1	5:47 -1.7	11:58 10.7	18:11 -2.0						M	1	1:00 9.6	7:00 -0.5	13:11 10.3	19:35 -1.5	W	1	1:39 8.8	7:33 0.3	13:44 9.7	20:11 -0.9							
	S	2	0:28 10.5	6:34 -1.4	12:45 10.6						N	Tu	2	1:55 9.1	7:52 0.1	14:04 9.8	20:33 -1.0	Th	2	2:33 8.4	8:30 0.7	14:39 9.1	21:06 -0.4						
	S	3	1:19 10.0	7:22 -0.9	13:35 10.3							W	3	2:54 8.5	8:51 0.6	15:08 9.2	21:31 -0.4	F	3	3:30 8.2	9:31 1.0	15:38 8.6	22:04 0.0						
	M	4	2:18 9.4	8:15 -0.3	14:29 9.8							Th	4	3:56 8.1	9:57 1.0	16:06 8.7	22:36 0.0	S	4	4:27 8.0	10:34 1.2	16:39 8.2	23:01 0.4						
	Tu	5	3:12 8.7	9:14 0.4	15:27 9.3							F	5	5:08 7.9	11:06 1.2	17:13 8.4	23:40 0.3	S	5	5:25 8.0	11:38 1.2	17:40 7.9	23:59 0.6						
	W	6	4:18 8.2	10:19 0.9	16:30 8.9							S	6	6:08 8.0	12:16 1.2	18:20 8.3		E	M	6	6:19 8.1	12:36 1.1	18:40 7.8						
	Th	7	5:29 7.9	11:30 1.2	17:39 8.6							S	7	0:41 0.4	7:06 8.1	13:16 1.0	19:20 8.2	A	Tu	7	0:50 0.8	7:09 8.3	13:28 1.0	19:34 7.9					
	F	8	0:12 0.2	6:39 7.9	12:41 1.2	18:49 8.6						M	8	1:36 0.4	7:56 8.4	14:10 0.7	20:15 8.3	W	8	1:39 8.0	7:56 8.5	14:14 0.7	20:22 7.9						
	S	9	1:16 0.2	7:41 8.1	13:46 0.9	19:51 8.6						Tu	9	2:25 0.4	8:41 8.7	14:54 0.5	21:01 8.4	Th	9	2:21 0.9	8:35 8.6	14:55 0.5	21:05 7.9						
	S	10	2:12 0.1	8:38 8.3	14:41 0.7	20:45 8.7						W	10	3:09 0.5	9:20 8.8	15:34 0.3	21:43 8.4	F	10	3:01 0.9	9:11 8.8	15:32 0.2	21:45 7.9						
M	11	3:01 0.0	9:20 8.6	15:29 0.4	21:33 8.8						Th	11	3:45 0.5	9:55 8.8	16:10 0.1	22:20 8.3	S	11	3:39 0.9	9:49 9.0	16:10 -0.1	22:23 8.0							
Tu	12	3:45 0.0	10:00 8.8	16:08 0.2	22:14 8.7						F	12	4:18 0.6	10:25 8.9	16:41 0.0	22:53 8.2	S	12	4:15 0.9	10:26 9.2	16:46 -0.4	23:00 8.1							
W	13	4:21 0.1	10:34 8.9	16:43 0.1	22:51 8.7						S	13	4:48 0.7	10:58 9.0	17:15 -0.2	23:25 8.2	M	13	4:50 0.9	11:03 9.4	17:26 -0.6	23:37 8.2							
Th	14	4:55 0.3	11:04 8.8	17:15 0.1	23:33 8.5						S	14	5:19 0.8	11:29 9.0	17:50 -0.3	23:59 8.1	S	Tu	14	5:27 0.8	11:43 9.4	18:08 -0.7							
F	15	5:24 0.4	11:31 8.8	17:45 0.1	23:54 8.4						M	15	5:50 0.8	12:04 9.0	18:26 -0.4		W	15	0:19 8.3	6:08 0.7	12:26 9.4	18:51 -0.8							
S	16	5:53 0.6	12:01 8.8	18:17 0.1							Tu	16	0:34 8.1	6:26 0.9	12:43 9.0	19:09 -0.4	Th	16	1:03 8.4	6:54 0.7	13:11 9.3	19:38 -0.8							
S	17	0:25 8.2	6:21 0.7	12:33 8.8	18:51 0.0						W	17	1:19 8.1	7:09 1.0	13:27 8.9	19:54 -0.3	F	17	1:51 8.5	7:45 0.7	14:00 9.2	20:27 -0.6							
M	18	1:00 8.1	6:53 0.9	13:09 8.7	19:31 0.1						Th	18	2:06 8.0	7:56 1.1	14:15 8.8	20:46 -0.2	S	18	2:48 8.5	8:40 0.7	14:55 9.0	21:20 -0.4							
Tu	19	1:39 8.0	7:31 1.1	13:50 8.6	20:16 0.1						F	19	3:00 8.0	8:54 1.2	15:10 8.6	21:40 0.0	S	19	3:38 8.6	9:40 0.6	15:53 8.8	22:15 -0.2							
W	20	2:25 7.8	8:17 1.3	14:37 8.4	21:06 0.2						S	20	3:59 8.0	9:59 1.1	16:11 8.5	22:40 0.0	E	M	20	4:35 8.8	10:44 0.5	16:55 8.6	23:15 0.0						
Th	21	3:18 7.7	9:11 1.4	15:33 8.3	22:04 0.3						S	21	5:00 8.2	11:09 0.9	17:17 8.5	23:40 0.0	Tu	21	5:31 9.0	11:48 0.2	18:00 8.7								
F	22	4:19 7.7	10:16 1.4	16:34 8.3	23:05 0.3						M	22	6:01 8.6	12:11 0.5	18:21 8.7		W	22	0:13 0.1	6:30 9.2	12:49 -0.2	19:03 8.7							
S	23	5:24 7.8	11:25 1.2	17:40 8.5							Tu	23	0:40 -0.1	6:59 9.1	13:13 -0.1	19:25 9.0	P	Th	23	1:11 0.0	7:26 9.5	13:50 -0.6	20:05 8.8						
S	24	0:08 0.1	6:27 8.2	12:34 0.8	18:45 8.8						W	24	1:38 -0.3	7:52 9.6	14:10 -0.7	20:23 9.4	F	24	2:10 0.0	8:21 9.9	14:48 -1.0	21:05 8.9							
M	25	1:09 -0.2	7:26 8.8	13:35 0.1	19:46 9.3						Th	25	2:31 -0.6	8:44 10.1	15:03 -1.3	21:19 9.6	S	25	3:03 -0.1	9:15 10.2	15:41 -1.3	22:01 9.0							
Tu	26	2:06 -0.7	8:20 9.5	14:31 -0.6	20:44 9.7						F	26	3:24 -0.7	9:34 10.5	15:55 -1.7	22:11 9.7	S	26	3:56 -0.2	10:08 10.4	16:34 -1.5	22:54 9.0							
W	27	2:58 -1.0	9:10 10.0	15:23 -1.2	21:36 10.2						S	27	4:12 -0.7	10:24 10.7	16:46 -1.9	23:04 9.6	N	M	27	4:48 -0.1	10:58 10.4	17:24 -1.5	23:43 9.0						
Th	28	3:47 -1.3	9:59 10.5	16:14 -1.8	22:29 10.4						S	28	5:00 -0.6	11:12 10.8	17:35 -1.9	23:54 9.4	Tu	28	5:37 0.0	11:46 10.3	18:13 -1.4								
F	29	4:35 -1.4	10:46 10.8	17:03 -2.1	23:19 10.3						M	29	5:50 -0.4	12:01 10.5	18:26 -1.7		W	29	0:32 8.9	6:26 0.2	12:35 10.0	19:00 -1.1							
S	30	5:22 -1.3	11:33 10.8	17:51 -2.1							Tu	30	0:45 9.1	6:40 0.0	12:51 10.2	19:18 -1.4	Th	30	1:20 8.7	7:16 0.4	13:25 9.6	19:49 -0.7							
S	31	0:09 10.0	6:10 -1.0	12:21 10.7	18:43 -1.9												F	31	2:09 8.5	8:07 0.6	14:14 9.1	20:36 -0.3							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N	F	1	0:32	6:45	13:10	19:20				M	1	2:04	8:20	14:49	21:05	N	M	1	0:40	6:55	13:24	19:40							
			0.2	9.7	0.1	8.9						0.7	9.7	0.2	8.3				1.0	9.4	0.5	8.0							
	S	2	1:30	7:44	14:11	20:22				N	Tu	2	3:02	9:15	15:44	22:00		Tu	2	1:42	7:55	14:26	20:44						
			0.3	9.9	-0.1	8.8						0.8	9.9	0.1	8.4				1.1	9.3	0.5	8.0							
	S	3	2:27	8:40	15:08	21:21				W	3	3:55	10:06	16:38	22:48		W	3	2:41	8:54	15:21	21:38							
			0.3	10.1	-0.3	8.8						0.7	9.9	-0.1	8.5				1.1	9.3	0.4	8.2							
	M	4	3:20	9:32	16:00	22:13				Th	4	4:43	10:52	17:17	23:30		Th	4	3:36	9:45	16:09	22:25							
			0.3	10.3	-0.5	8.8						0.7	9.9	-0.2	8.6				1.0	9.4	0.3	8.4							
	Tu	5	4:12	10:23	16:49	23:02				○	F	5	5:27	11:35	17:57		F	5	4:24	10:32	16:52	23:05							
			0.3	10.4	-0.6	8.8						0.7	9.9	-0.2				0.8	9.5	0.2	8.6								
	W	6	5:00	11:10	17:35	23:47				S	6	6:07	12:15	18:34		○	S	6	5:06	11:13	17:29	23:40							
			0.4	10.4	-0.6	8.8						8.6	0.7	9.7	-0.2				0.7	9.5	0.1	8.8							
O	Th	7	5:45	11:54	18:17					S	7	6:42	12:58	19:10		A	S	7	5:42	11:50	18:05								
			0.5	10.3	-0.5						8.7	0.7	9.5	-0.1				0.6	9.5	0.1									
	F	8	6:27	12:37	18:59				A	M	8	1:17	7:23	13:30	19:47		M	8	0:12	6:18	12:25	18:39							
			8.8	0.6	10.0	-0.4					8.8	0.8	9.3	0.2				9.0	0.5	9.4	0.2								
	S	9	1:07	7:08	13:18	19:39			E	Tu	9	1:55	8:01	14:08	20:23		E	Tu	9	0:45	6:54	13:01	19:13						
			8.6	0.9	9.7	-0.2					8.8	0.9	9.0	0.4				9.1	0.4	9.3	0.3								
	S	10	1:48	7:50	13:59	20:19				W	10	2:32	8:42	14:47	21:04		W	10	1:20	7:30	13:37	19:50							
			8.6	1.1	9.3	0.1					8.8	0.9	8.7	0.7				9.1	0.4	9.1	0.5								
	M	11	2:29	8:38	14:40	21:01				Th	11	3:12	9:25	15:30	21:45		Th	11	1:56	8:10	14:15	20:27							
			8.6	1.3	8.9	0.4					8.8	1.0	8.4	1.0				9.2	0.4	8.8	0.8								
	Tu	12	3:10	9:18	15:22	21:43				F	12	3:57	10:18	16:17	22:31		F	12	2:35	8:54	14:57	21:08							
			8.5	1.4	8.6	0.7					8.7	1.0	8.2	1.3				9.1	0.5	8.6	1.1								
E	W	13	3:52	10:04	16:08	22:27			○	S	13	4:45	11:05	17:09	23:22		S	13	3:19	9:42	15:44	21:54							
			8.4	1.5	8.3	1.0					8.7	1.0	8.0	1.4				9.0	0.6	8.3	1.3								
	Th	14	4:40	10:54	16:47	23:15				S	14	5:38	12:03	18:06		○	S	14	4:08	10:34	16:37	22:47							
			8.4	1.5	8.0	1.2					8.8	1.1	7.9					8.9	0.7	8.1	1.5								
	F	15	5:28	11:46	17:49					M	15	6:17	12:54	18:52	19:05		M	15	5:04	11:32	17:38	23:45							
			8.6	1.3	7.9						1.5	9.1	0.6	8.1				8.9	0.7	8.0	1.5								
	S	16	6:05	12:19	18:41	18:43			S	Tu	16	1:15	7:33	14:01	20:05		S	Tu	16	6:04	12:32	18:38							
			1.3	8.7	1.0	7.9					1.3	9.4	0.2	8.4				9.1	0.5	8.2									
	S	17	6:57	7:12	13:35	19:40				W	17	2:14	8:30	14:58	21:04		W	17	6:48	7:05	13:35	19:42							
			1.3	9.0	0.6	8.2					0.9	9.9	-0.4	8.8				1.3	9.4	0.2	8.5								
	M	18	1:50	8:05	14:30	20:35				Th	18	3:11	9:27	15:52	22:00		Th	18	1:51	8:07	14:34	20:40							
			1.1	9.5	0.1	8.5					0.4	10.5	-0.9	9.4				0.8	9.8	-0.2	9.0								
S	Tu	19	2:41	8:57	15:24	21:30				F	19	4:06	10:21	16:45	22:51		F	19	2:50	9:05	15:28	21:37							
			0.8	10.0	-0.5	8.9					-0.2	11.0	-1.4	10.0				0.2	10.3	-0.3	9.6								
	W	20	3:34	9:49	16:15	22:22			●	S	20	5:00	11:13	17:35	23:41		S	20	3:47	10:01	16:20	22:28							
			0.4	10.5	-1.0	9.3					-0.8	11.3	-1.7	10.4				-0.5	10.8	-0.7	10.2								
	Th	21	4:25	10:40	17:06	23:12				S	21	5:50	12:04	18:22		●	S	21	4:41	10:55	17:10	23:18							
			0.0	11.0	-1.4	9.7					-1.2	11.5	-1.8				-1.1	11.1	-1.5	10.8									
	F	22	5:16	11:30	17:56				E	M	22	6:30	12:42	12:55	19:11		E	M	22	5:31	11:45	18:00							
			-0.3	11.2	-1.7						10.7	-1.4	11.4	-1.8				-1.6	11.3	-1.6									
	S	23	6:02	6:07	12:21	18:44				Tu	23	1:20	7:32	13:45	19:59		Tu	23	6:08	6:21	12:35	18:45							
			10.0	-0.6	11.3	-1.8					10.9	-1.4	11.1	-1.5				11.1	-1.8	11.3	-1.5								
	S	24	6:50	6:57	13:12	19:33				W	24	2:10	8:25	14:37	20:50		W	24	6:55	7:12	13:24	19:34							
			10.2	-0.8	11.3	-1.7					10.8	-1.3	10.6	-1.0				11.3	-1.9	11.0	-1.3								
E	M	25	1:42	7:50	14:03	20:24				Th	25	3:00	9:18	15:30	21:42		Th	25	1:45	8:04	14:20	20:24							
			10.4	-0.8	11.0	-1.4					10.6	-1.0	10.0	-0.5				11.1	-1.6	10.5	-0.8								
	Tu	26	2:32	8:44	14:57	21:15			○	F	26	3:55	10:15	16:27	22:37		F	26	2:35	8:55	15:07	21:15							
			10.3	-0.7	10.0	-1.0					10.3	-0.6	9.4	0.1				10.8	-1.2	9.9	-0.2								
	W	27	3:27	9:40	15:52	22:09				S	27	4:53	11:15	17:27	23:36		S	27	3:28	9:51	16:08	22:10							
			10.2	-0.5	10.0	-0.5					9.9	-0.1	8.7	0.6				10.3	-0.7	9.2	0.4								
	Th	28	4:22	10:40	16:50	23:05				S	28	5:53	12:20	18:32		○	S	28	4:24	10:50	17:02	23:10							
			10.0	-0.2	9.4	0.0					9.6	0.3	8.3					9.8	-0.1	8.6	0.9								
	F	29	5:20	11:42	17:52											N	M	29	5:24	11:51	18:05								
			9.9	-0.0	8.9													9.3	0.4	8.1									
	S	30	6:04	6:20	12:45	18:56											Tu	30	6:13	6:26	12:55	19:12							
			0.3	9.7	0.2	8.5												1.3	9.0	0.7	7.9								
S	31	1:04	7:20	13:49	20:02											W	31	1:16	7:28	13:54	20:14								
		0.6	9.7	0.3	8.3												1.4	8.9	0.8	8.0									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.										
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.									W.	Mo.									W.	Mo.								
A	Th	1	2:16	8:25	14:48	21:05	1.3	8.9	0.7	8.2	S	1	2:34	8:39	14:53	21:05	1.2	8.5	0.8	8.6	Tu	1	3:21	9:27	15:33	21:45	0.4	8.5	0.8	9.5
	F	2	3:09	9:17	15:35	21:50	1.1	9.0	0.6	8.5	W	2	3:18	9:25	15:35	21:46	0.9	8.6	0.7	8.9	W	2	4:04	10:10	16:15	22:25	0.0	8.7	0.7	9.8
	S	3	3:55	10:02	16:18	22:28	0.9	9.1	0.4	8.8	M	3	4:00	10:18	16:15	22:22	0.6	8.8	0.6	9.3	Th	3	4:47	10:53	16:56	23:07	-0.3	8.9	0.6	10.1
	S	4	4:35	10:44	16:55	23:00	0.6	9.1	0.3	9.0	Tu	4	4:38	10:47	16:53	23:00	0.2	8.9	0.5	9.5	F	4	5:31	11:37	17:38	23:50	-0.6	9.0	0.6	10.2
	M	5	5:12	11:20	17:30	23:35	0.4	9.2	0.3	9.2	W	5	5:18	11:25	17:30	23:37	-0.1	9.0	0.5	9.7	S	5	6:15	12:20	18:20	24:15	-0.8	9.1	0.6	10.3
E	Tu	6	5:48	11:55	18:05	24:05	0.2	9.2	0.4	9.2	Th	6	5:56	12:04	18:07	24:05	0.4	9.1	0.6	9.7	S	6	6:35	12:40	18:36	24:08	0.35	9.01	0.6	10.3
	W	7	6:11	12:25	18:31	24:40	0.4	9.2	0.4	9.2	F	7	6:17	12:38	18:43	24:46	0.9	-0.5	9.1	0.7	M	7	7:21	13:19	18:55	24:56	1.21	7.49	9.1	0.7
	Th	8	6:46	13:03	19:15	25:15	9.5	0.0	9.1	0.6	S	8	6:57	13:26	19:28	25:15	9.9	-0.5	9.0	0.8	Tu	8	8:05	14:08	19:46	26:05	2.12	8.38	9.1	0.7
	F	9	7:24	13:49	19:54	25:54	9.5	0.0	9.0	0.8	S	9	7:41	14:12	20:15	25:54	9.8	-0.5	8.9	1.0	W	9	8:05	14:52	20:40	26:48	3.05	9.32	15:40	21:48
	S	10	8:05	14:32	20:36	26:36	9.4	0.0	8.8	1.1	M	10	8:28	15:02	21:06	26:36	9.6	-0.3	8.7	1.1	Th	10	9:02	15:57	21:37	27:48	4.02	10:27	16:37	28:59
S	S	11	8:50	15:21	21:25	27:25	9.3	0.1	8.6	1.3	Tu	11	9:05	15:57	22:03	27:25	9.5	-0.1	8.6	1.2	F	11	9:41	16:42	22:38	28:59	5.01	11:24	17:36	29:50
	M	12	9:41	16:16	22:21	28:21	9.2	0.3	8.4	1.5	W	12	10:05	16:57	23:05	28:21	9.3	0.1	8.6	1.1	S	12	10:22	17:47	23:35	29:50	6.02	12:22	18:35	30:51
	Tu	13	10:27	17:15	23:23	29:23	9.1	0.4	8.3	1.4	Th	13	11:05	17:58	24:05	29:23	9.3	0.1	8.8	1.1	S	13	11:05	18:39	24:24	30:51	6.58	13:04	19:17	31:52
	W	14	11:05	18:16	24:23	30:23	9.1	0.3	8.4	1.4	F	14	11:46	18:45	25:05	30:23	9.3	0.1	8.8	1.1	M	14	12:05	19:30	25:25	31:53	7.03	14:13	20:28	32:53
	Th	15	11:46	19:09	25:18	31:18	1.1	9.3	0.2	8.7	S	15	12:25	20:38	26:15	31:18	1.13	9.2	-0.1	9.6	Tu	15	12:52	21:29	27:00	32:54	2.52	9:02	15:07	21:22
P	F	16	13:32	20:09	26:18	32:18	0.6	9.6	-0.2	9.3	S	16	13:05	21:18	27:00	32:18	1.2	9.4	-0.1	9.6	W	16	13:47	22:19	28:00	33:55	3.47	9:56	16:00	22:13
	S	17	2:32	8:45	15:03	21:13	0.0	10.0	-0.6	9.9	M	17	2:10	9:21	15:31	21:41	-0.8	10.0	-0.6	10.7	Th	17	4:38	10:50	16:50	23:03	-1.1	9.4	-0.2	10.9
	S	18	3:28	9:40	15:55	22:05	-0.7	10.4	-0.9	10.5	Tu	18	4:03	10:15	16:21	22:32	-1.3	10.1	-0.7	11.0	F	18	5:28	11:40	17:38	23:52	5:28	11:40	17:38	23:52
	M	19	4:22	10:35	16:45	22:55	-1.3	10.7	-1.2	11.0	W	19	4:55	11:07	17:11	23:20	-1.6	10.1	-0.7	11.2	S	19	6:16	12:28	18:28	24:48	-1.2	9.2	0.1	10.3
	Tu	20	5:14	11:25	17:34	23:45	-1.7	10.8	-1.2	11.3	Th	20	5:45	11:55	17:58	24:10	-1.7	10.0	-0.6	10.9	S	20	6:38	13:03	19:13	25:33	10:7	1:0	9.0	0.4
N	W	21	6:03	12:15	18:21	24:31	-2.0	10.8	-1.1	11.3	F	21	6:10	12:43	18:47	24:47	11.2	-1.6	9.8	-0.3	M	21	7:25	13:39	19:49	26:01	1:25	7:49	14:00	20:01
	Th	22	6:53	13:02	19:10	25:20	0.32	10.8	-1.1	11.3	S	22	7:00	13:22	19:35	25:20	10.9	-1.4	9.5	0.1	Tu	22	8:35	14:46	20:56	26:50	2:12	8:35	14:46	20:50
	F	23	7:42	13:53	20:00	26:10	1.20	-1.6	10.0	-0.4	S	23	7:48	14:23	20:27	26:10	11.5	-1.0	9.1	0.5	W	23	9:00	15:33	21:40	27:40	3:00	9:22	15:33	21:40
	S	24	8:33	14:45	20:50	27:00	2.10	-1.2	9.5	0.2	M	24	8:37	15:12	21:19	27:00	12.0	-0.5	8.7	0.9	Th	24	10:09	16:21	22:30	28:30	3:47	10:09	16:21	22:30
	S	25	9:27	15:39	21:45	28:15	3:03	9:27	15:39	21:45	Tu	25	9:29	16:07	22:12	28:15	12.5	9:54	16:07	22:12	F	25	10:55	17:10	23:22	29:22	4:37	10:55	17:10	23:22
D	M	26	10:22	16:37	22:42	29:12	10.2	-0.6	8.9	0.7	W	26	10:22	17:01	23:10	29:12	10.9	-0.1	8.5	1.4	S	26	11:45	17:58	24:15	30:15	5:28	11:45	17:58	24:15
	Tu	27	11:20	17:37	23:44	30:14	9.1	0.4	8.1	1.4	Th	27	11:17	17:58	24:07	30:14	11.6	0.7	8.2	1.5	S	27	12:33	18:46	25:07	31:07	6:14	12:33	18:46	25:07
	W	28	12:19	18:36	24:45	31:15	8.7	0.7	8.0	1.4	F	28	12:30	18:47	25:08	31:15	12.1	0.8	8.3	1.6	M	28	13:20	19:33	26:08	32:08	7:07	13:20	19:33	26:08
	Th	29	13:15	19:32	25:46	32:16	1.5	8.5	0.8	8.0	S	29	13:20	19:33	26:08	32:16	12.6	0.8	8.2	1.7	Tu	29	14:07	20:20	27:09	33:09	7:58	14:07	20:20	27:09
	F	30	14:06	20:23	26:47	33:17	1.42	7:49	14:06	20:23	S	30	14:06	20:19	26:08	33:17	1.2	8.2	1.0	8.8	W	30	14:55	21:06	28:10	34:10	8:48	14:55	21:06	28:10
A			15:06	21:13	27:48	34:18	1.4	8.5	0.8	8.3	M	31	15:06	21:13	27:10	34:18	2.37	8:43	14:51	21:02										
			16:06	22:13	28:48	35:19	0.9	8.3	0.9	9.1																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 76th meridian, W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S	Th	1	3:31 0.0	9:37 8.5	15:41 0.8	21:54 10.0	○	S	1	4:42 -1.0	10:49 9.3	16:52 0.0	23:07 10.9	P	W	1	5:56 -1.6	12:03 10.6	18:14 -1.3	...												
	F	2	4:19 -0.5	10:25 8.8	16:27 0.6	22:40 10.4		M	2	5:31 -1.3	11:38 9.7	17:42 -0.4	23:58 11.1	E	Th	2	6:27 11.3	6:43 -1.6	12:51 10.8	19:05 -1.5												
	S	3	5:07 -0.9	11:12 9.1	17:12 0.4	23:27 10.6	P	Tu	3	6:19 -1.5	12:26 10.1	18:32 -0.6	...	F	3	1:18 11.1	7:31 -1.4	13:40 10.8	19:56 -1.4													
	S	4	5:53 -1.1	12:00 9.3	18:00 0.2	...		W	4	6:47 11.1	7:08 -1.5	13:15 10.2	19:23 -0.8	S	4	2:09 10.7	8:21 -1.0	14:32 10.7	20:50 -1.1													
	M	5	6:15 10.7	6:41 -1.3	12:47 9.5	18:49 0.1	E	Th	5	1:37 10.9	7:57 -1.3	14:05 10.3	20:16 -0.7	S	5	3:02 10.2	9:13 -0.5	15:26 10.4	21:47 -0.8													
P	Tu	6	1:05 10.7	7:30 -1.2	13:36 9.6	19:40 0.0		F	6	2:30 10.6	8:47 -1.0	14:57 10.2	21:11 -0.6	☾	M	6	3:59 9.6	10:08 0.0	16:23 10.1	22:47 -0.4												
	W	7	1:55 10.6	8:19 -1.1	14:28 9.7	20:35 0.0		S	7	3:23 10.1	9:39 -0.6	15:52 10.1	22:10 -0.4	N	Tu	7	4:59 9.0	11:08 0.5	17:23 9.8	23:50 0.0												
	Th	8	2:48 10.3	9:10 -0.8	15:21 9.7	21:31 0.0	☾	S	8	4:20 9.6	10:33 -0.2	16:49 10.0	23:10 -0.3	W	8	6:03 8.5	12:10 0.8	18:26 9.5	...													
	F	9	3:43 10.0	10:04 -0.5	16:16 9.7	22:30 0.0		M	9	5:20 9.1	11:31 0.2	17:47 9.9	...	Th	9	6:55 0.3	7:10 8.3	13:13 8.9	19:29 9.5													
	S	10	4:41 9.6	11:00 -0.2	17:13 9.7	23:31 0.0		Tu	10	6:12 -0.1	6:22 8.8	12:31 0.4	18:48 9.8	F	10	1:57 0.8	8:15 8.3	14:15 0.9	20:28 9.5													
N	S	11	5:41 9.2	11:56 0.0	18:11 9.8	...	N	W	11	1:15 0.1	7:27 8.5	13:31 0.6	19:48 9.8	S	11	2:55 0.3	9:12 8.4	15:12 0.7	21:23 9.6													
	M	12	6:34 -0.1	6:42 9.0	12:55 0.2	19:10 10.0		Th	12	2:17 0.1	8:31 8.4	14:31 0.6	20:46 10.0	S	12	3:46 0.1	10:02 8.7	16:02 0.5	22:12 9.7													
	Tu	13	1:34 -0.2	7:45 8.9	13:51 0.3	20:07 10.2		F	13	3:15 -0.1	9:30 8.5	15:27 0.5	21:40 10.0	M	13	4:31 0.0	10:44 8.9	16:47 0.4	22:55 9.7													
	W	14	2:34 -0.3	8:45 8.8	14:48 0.3	21:03 10.3	●	S	14	4:07 -0.2	10:22 8.6	16:19 0.5	22:30 10.1	●	Tu	14	5:12 0.0	11:22 9.0	17:21 0.3	23:35 9.6												
	Th	15	3:32 -0.5	9:43 8.8	15:42 0.3	21:56 10.5	●	S	15	4:55 -0.3	11:08 8.8	17:06 0.4	23:16 10.1	E	W	15	5:48 0.0	11:56 9.2	18:08 0.3	...												
A	F	16	4:23 -0.6	10:37 8.9	16:34 0.3	22:47 10.5		M	16	5:38 -0.3	11:48 8.8	17:49 0.4	23:58 9.9	Th	16	6:11 9.4	6:23 0.2	12:29 9.2	18:40 0.3													
	S	17	5:12 -0.7	11:25 8.9	17:22 0.3	23:34 10.5		Tu	17	6:17 -0.3	12:27 8.9	18:30 0.5	...	F	17	6:47 9.2	6:58 0.4	13:04 9.1	19:17 0.4													
	S	18	5:58 -0.7	12:10 8.9	18:08 0.4	...		W	18	6:38 9.7	6:55 -0.1	13:01 8.9	19:09 0.6	S	18	1:22 9.0	7:32 0.6	13:40 9.1	19:55 0.5													
	M	19	6:19 10.3	6:42 -0.6	12:52 8.9	18:53 0.5	A	Th	19	1:17 9.3	7:33 0.1	13:40 8.9	19:49 0.7	S	19	2:00 8.7	8:08 0.9	14:17 9.0	20:36 0.6													
	Tu	20	1:03 9.9	7:25 -0.4	13:34 8.8	19:36 0.8		F	20	1:55 9.0	8:10 0.4	14:17 8.8	20:28 0.8	M	20	2:40 8.4	8:49 1.2	15:00 8.9	21:22 0.7													
D	W	21	1:45 9.6	8:06 -0.1	14:15 8.8	20:20 1.0		S	21	2:34 8.7	8:48 0.7	14:57 8.8	21:10 0.9	Tu	21	3:26 8.2	9:38 1.5	15:47 8.8	22:13 0.8													
	Th	22	2:28 9.1	8:47 0.2	14:56 8.7	21:05 1.2		S	22	3:15 8.4	9:30 1.0	15:39 8.7	21:57 1.1	☾	W	22	4:16 8.0	10:24 1.7	16:42 8.7	23:09 0.8												
	F	23	3:10 8.7	9:29 0.6	15:40 8.6	21:50 1.3	☾	M	23	4:00 8.1	10:13 1.4	16:26 8.7	22:48 1.1	S	Th	23	5:13 7.9	11:22 1.7	17:38 8.8	...												
	S	24	3:55 8.4	10:18 0.9	16:24 8.5	22:38 1.3		Tu	24	4:50 7.9	11:02 1.5	17:17 8.7	23:42 1.0	F	24	6:08 0.7	6:13 8.0	12:22 1.5	18:40 9.1													
	S	25	4:41 8.1	10:58 1.1	17:11 8.6	23:29 1.4		W	25	5:44 7.8	11:55 1.6	18:12 8.9	...	S	25	1:08 0.4	7:15 8.3	13:24 1.0	19:40 9.5													
S	M	26	5:31 7.9	11:45 1.3	18:00 8.8	...		Th	26	6:38 0.8	6:42 7.9	12:52 1.4	19:09 9.2	S	26	2:06 0.0	8:14 8.9	14:24 0.4	20:38 10.0													
	Tu	27	6:20 1.3	6:23 7.8	12:35 1.4	18:51 8.9	S	F	27	1:36 0.4	7:41 8.2	13:50 1.1	20:05 9.6	M	27	3:00 -0.5	9:09 9.5	15:20 -0.3	21:34 10.5													
	W	28	1:15 0.8	7:16 7.9	13:27 1.4	19:42 9.3		S	28	2:33 -0.1	8:38 8.6	14:45 0.6	21:01 10.1	Tu	28	3:52 -1.0	10:00 10.2	16:13 -1.0	22:27 11.0													
	Th	29	2:08 0.4	8:12 8.2	14:18 1.1	20:34 9.7		S	29	3:27 -0.6	9:33 9.2	15:40 0.0	21:55 10.6	☾	W	29	4:42 -1.4	10:50 10.7	17:04 -1.5	23:17 11.2												
	F	30	3:01 -0.1	9:08 8.5	15:09 0.7	21:27 10.1		M	30	4:18 -1.1	10:25 9.7	16:32 -0.6	22:47 11.0	☾	Th	30	5:30 -1.5	11:40 11.1	17:55 -1.9	...												
	S	31	3:52 -0.6	9:58 8.9	16:01 0.4	22:17 10.6	○	Tu	31	5:08 -1.4	11:14 10.2	17:24 -1.0	23:37 11.2																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.														
MOON.	Day of—		Time and Height of High and Low Water.							MOON.	Day of—		Time and Height of High and Low Water.							MOON.	Day of—		Time and Height of High and Low Water.											
	W.	Mo.									W.	Mo.									W.	Mo.												
N	F	1	0:07	6:18	12:28	18:45	11.2	-1.5	11.3	-2.0	C	M	1	1:27	7:32	13:45	20:07	10.2	-0.6	11.1	-1.5	C	W	1	2:00	8:02	14:24	20:40	9.4	0.2	10.4	-0.9		
	S	2	0:58	7:06	13:17	19:35	11.0	-1.3	11.3	-1.8		N	Tu	2	2:20	8:24	14:37	21:02	9.7	-0.1	10.6		-1.0	Th	2	2:50	8:55	15:06	21:31	9.1	0.6	9.8	-0.4	
	S	3	1:47	7:55	14:07	20:29	10.6	-0.9	11.0	-1.5		W	3	3:13	9:19	15:32	21:58	9.2	0.5	10.0	-0.4		F	3	3:43	9:50	16:00	22:25	8.7	1.0	9.3	0.1		
	M	4	2:40	8:48	15:01	21:25	10.0	-0.3	10.6	-1.0		C	Th	4	4:12	10:19	16:30	22:58	8.7	0.9	9.4		0.1	C	S	4	4:40	10:48	16:57	23:18	8.5	1.3	8.8	0.5
	Tu	5	3:36	9:43	15:57	22:24	9.4	0.2	10.0	-0.4		F	5	5:09	11:21	17:31	23:57	8.4	1.2	9.0	0.4		S	5	5:35	11:47	17:54	23:44	8.4	1.4	8.4	...		
	W	6	4:36	10:43	16:58	23:25	8.8	0.7	9.6	0.1		S	6	6:16	12:25	18:32	...	8.2	1.3	8.7	...		E	M	6	0:12	6:30	12:44	18:50	0.8	8.4	1.4	8.2	
	Th	7	5:40	11:48	18:01	...	8.4	1.0	9.2	...		S	7	0:55	7:15	13:25	19:33	0.6	8.3	1.2	8.6		A	Tu	7	1:04	7:20	13:38	19:42	0.9	8.6	1.2	8.2	
	F	8	0:30	6:48	12:52	19:05	0.4	8.2	1.2	9.1		M	8	1:55	8:07	14:18	20:26	0.6	8.5	1.0	8.6		W	8	1:52	8:07	14:26	20:32	1.0	8.8	1.0	8.2		
	S	9	1:30	7:50	13:55	20:05	0.5	8.3	1.1	9.1		A	Tu	9	2:38	8:52	15:07	21:18	0.6	8.8	0.7		8.7	Th	9	2:38	8:50	15:10	21:16	1.0	9.1	0.6	8.3	
	S	10	2:27	8:45	14:50	21:00	0.4	8.5	0.8	9.2		E	W	10	3:21	9:38	15:48	21:55	0.6	9.1	0.7		8.7	F	10	3:20	9:31	15:52	22:00	0.9	9.4	0.2	8.4	
	M	11	3:16	9:31	15:39	21:47	0.3	8.8	0.6	9.2		Th	11	4:00	10:10	16:27	22:35	0.6	9.3	0.2	8.8		S	11	4:01	10:12	16:34	22:40	0.8	9.7	-0.2	8.6		
	Tu	12	4:00	10:12	16:21	22:30	0.3	9.0	0.4	9.2		●	F	12	4:38	10:47	17:05	23:11	0.6	9.5	-0.1		8.9	●	S	12	4:42	10:52	17:15	23:21	0.8	9.9	-0.5	8.8
E	W	13	4:39	10:48	16:59	23:07	0.2	9.3	0.2	9.2	S	13	5:15	11:23	17:42	23:48	0.6	9.7	-0.3	8.9	M	13	5:21	11:34	17:57	...	0.7	10.1	-0.7	...				
	Th	14	5:15	11:21	17:35	23:42	0.3	9.4	0.1	9.2	S	14	5:50	12:00	18:20	...	0.7	9.8	-0.4	...	S	Tu	14	0:01	6:01	12:15	18:41	8.9	0.7	10.2	-0.8			
	F	15	5:48	11:55	18:10	...	0.4	9.4	0.0	...	M	15	0:28	6:26	12:38	19:01	8.9	0.8	9.8	-0.4	W	15	0:45	6:45	13:00	19:25	9.0	0.7	10.2	-0.8				
	S	16	0:17	6:23	12:29	18:47	9.0	0.6	9.5	0.0	S	Tu	16	1:06	7:06	13:19	19:45	8.8	1.0	9.7	-0.3	Th	16	1:30	7:32	13:47	20:12	9.0	0.7	10.0	-0.6			
	S	17	0:53	6:58	13:06	19:26	8.9	0.8	9.4	0.1	W	17	1:50	7:49	14:05	20:32	8.7	1.2	9.5	-0.1	F	17	2:19	8:22	14:36	21:02	9.0	0.8	9.8	-0.4				
	M	18	1:31	7:34	13:44	20:08	8.7	1.1	9.3	0.2	Th	18	2:37	8:38	14:54	21:23	8.6	1.3	9.3	0.1	S	18	3:10	9:17	15:30	21:56	9.0	0.8	9.6	-0.2				
	Tu	19	2:12	8:15	14:28	20:54	8.5	1.4	9.1	0.3	F	19	3:30	9:34	15:48	22:19	8.5	1.4	9.2	0.2	D	S	19	4:05	10:15	16:27	22:50	9.1	0.7	9.3	0.0			
	W	20	2:58	9:00	15:16	21:45	8.3	1.6	9.0	0.5	D	S	20	4:27	10:34	16:48	23:16	8.5	1.3	9.1	0.3	E	M	20	5:01	11:17	17:27	23:48	9.2	0.6	9.1	0.2		
	Th	21	3:50	9:55	16:11	22:42	8.2	1.7	8.9	0.6	S	21	5:26	11:37	17:50	...	8.6	1.0	9.1	...	Tu	21	6:01	12:18	18:30	...	9.4	0.3	9.0	...				
	F	22	4:48	10:55	17:11	23:41	8.1	1.6	8.9	0.5	M	22	0:14	6:26	12:41	18:52	0.2	9.0	0.6	9.2	W	22	0:45	7:00	13:20	19:31	0.2	9.7	-0.1	9.1				
	S	23	5:50	11:58	18:14	...	8.3	1.3	9.1	...	E	Tu	23	1:12	7:25	13:42	19:53	0.1	9.5	0.0	9.5	P	Th	23	1:42	7:58	14:21	20:31	0.1	10.1	-0.5	9.2		
	S	24	0:41	6:50	13:02	19:16	0.3	8.6	0.8	9.4	W	24	2:08	8:20	14:40	20:51	-0.2	10.1	-0.7	9.8	F	24	2:38	8:54	15:18	21:30	-0.1	10.6	-0.9	9.4				
M	25	1:39	7:49	14:02	20:16	0.0	9.2	0.1	9.8	P	Th	25	3:01	9:14	15:35	21:47	-0.5	10.7	-1.3	10.1	S	25	3:32	9:47	16:12	22:23	-0.2	10.9	-1.2	9.5				
Tu	26	2:34	8:45	15:02	21:12	-0.4	9.8	-0.6	10.3	F	26	3:52	10:05	16:28	22:38	-0.7	11.1	-1.7	10.2	○	S	26	4:25	10:38	17:05	23:15	-0.3	11.1	-1.4	9.5				
W	27	3:26	9:37	15:53	22:06	-0.8	10.5	-1.3	10.7	○	S	27	4:43	10:55	17:19	23:30	-0.8	11.4	-1.9	10.2	N	M	27	5:15	11:28	17:54	...	-0.3	11.2	-1.5	...			
Th	28	4:17	10:28	16:45	22:57	-1.1	11.1	-1.8	10.8	S	28	5:32	11:45	18:08	...	-0.8	11.5	-1.9	...	Tu	28	0:04	6:04	12:17	18:41	9.5	-0.3	11.0	-1.4					
F	29	5:06	11:17	17:35	23:47	-1.3	11.4	-2.1	10.8	N	M	29	0:19	6:21	12:34	18:58	10.1	-0.6	11.3	-1.7	W	29	0:52	6:52	13:04	19:28	9.5	-0.1	10.7	-1.1				
S	30	5:58	12:05	18:25	...	-1.2	11.6	-2.1	...	Tu	30	1:08	7:10	13:23	19:48	9.8	-0.3	11.0	-1.4	Th	30	1:39	7:40	13:52	20:14	9.3	0.2	10.3	-0.8					
S	31	0:37	6:42	12:54	19:11	10.6	-1.0	11.4	-1.9											F	31	2:25	8:30	14:40	21:02	9.1	0.5	9.7	-0.3					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	3:06 3.8	9:05 0.8	15:42 3.2	21:06 0.3				M	1	4:38 3.8	10:51 0.5	17:16 3.1	22:40 0.4	N	M	1	3:23 3.5	9:31 0.7	16:04 3.0	21:30 0.7										
	S	2	4:02 3.9	10:10 0.3	16:38 3.2	22:00 0.2				N	Tu	2	5:30 3.9	11:41 0.4	18:05 3.2	23:34 0.3	Tu	2	4:21 3.5	10:37 0.6	17:00 3.1	22:34 0.6										
	S	3	4:55 4.1	11:05 0.2	17:28 3.3	22:54 0.1				W	3	6:19 3.9	12:24 0.3	18:50 3.3		W	3	5:14 3.6	11:21 0.5	17:46 3.2	23:26 0.4											
	M	4	5:44 4.1	11:55 0.1	18:20 3.4	23:44 0.1				Th	4	0:21 0.3	7:04 3.9	13:01 0.2	19:31 3.4	Th	4	6:01 3.7	12:00 0.3	18:29 3.4												
	Tu	5	6:32 4.2	12:40 0.1	19:05 3.4					O	F	5	1:03 0.2	7:46 3.9	13:36 0.1	20:11 3.5	F	5	0:09 0.8	6:43 3.7	12:34 0.2	19:07 3.5										
	W	6	0:34 0.1	7:18 4.1	13:22 0.0	19:50 3.4				S	6	1:48 0.2	8:26 3.8	14:11 0.0	20:51 3.4	O	S	6	0:48 0.2	7:22 3.7	13:06 0.1	19:48 3.6										
	Th	7	1:20 0.2	8:04 4.0	14:00 0.0	20:36 3.4				S	7	2:20 0.2	9:05 3.6	14:45 0.0	21:31 3.4	A	S	7	1:21 0.1	8:00 3.7	13:39 0.0	20:20 3.6										
	F	8	2:00 0.2	8:46 3.9	14:38 0.1	21:20 3.3				A	M	8	2:50 0.2	9:42 3.4	15:19 0.0	22:08 3.3	M	8	1:54 0.1	8:36 3.6	14:10 -0.1	20:52 3.6										
	S	9	2:44 0.2	9:32 3.7	15:16 0.1	22:05 3.2				E	Tu	9	3:30 0.3	10:20 3.2	15:53 0.1	22:46 3.2	E	Tu	9	2:27 0.0	9:11 3.4	14:41 -0.1	21:28 3.5									
	A	S	10	3:24 0.4	10:14 3.4	15:54 0.2	22:50 3.1				W	10	4:09 0.3	11:01 3.0	16:23 0.2	23:28 3.2	W	10	3:01 0.0	9:46 3.2	15:14 0.0	22:04 3.5										
M		11	4:04 0.5	10:58 3.2	16:32 0.2	23:35 3.1				Th	11	4:51 0.3	11:41 2.8	17:06 0.3		Th	11	3:40 0.0	10:24 3.0	15:49 0.1	22:45 3.4											
Tu		12	4:45 0.6	11:42 8.0	17:12 0.3					F	12	0:14 3.1	5:41 0.4	12:32 2.7	17:49 0.4	F	12	4:23 0.1	11:07 2.8	16:26 0.3	23:32 3.3											
W		13	0:20 3.0	5:30 0.6	12:30 2.8	17:54 0.4				C	S	13	1:07 3.1	6:38 0.4	18:34 2.6	18:39 0.5	S	13	5:12 0.2	11:59 2.7	17:10 0.4											
Th		14	1:06 3.0	6:22 0.7	13:24 2.7	18:38 0.5				S	14	2:05 3.2	7:41 0.4	14:43 2.7	19:40 0.5	C	S	14	0:27 3.2	6:09 0.8	13:03 2.6	18:03 0.5										
F		15	1:56 3.1	7:20 0.6	14:20 2.7	19:28 0.5				M	15	3:02 3.4	8:50 0.3	15:45 2.8	20:47 0.4	M	15	1:29 3.2	7:11 0.4	14:14 2.7	19:11 0.6											
S		16	2:45 3.2	8:20 0.5	15:18 2.8	20:22 0.5				S	Tu	16	4:01 3.6	9:53 0.2	16:40 3.0	21:55 0.2	S	Tu	16	2:34 3.3	8:21 0.3	15:22 2.8	20:28 0.5									
S		17	3:36 3.5	9:21 0.4	16:12 2.9	21:19 0.3				W	17	4:56 3.9	10:51 0.0	17:31 3.4	22:56 0.0	W	17	3:38 3.6	9:30 0.2	16:18 3.2	21:40 0.3											
M		18	4:28 3.7	10:19 0.2	17:04 3.1	22:17 0.2				Th	18	5:50 4.2	11:45 -0.3	18:21 3.7	23:52 -0.3	Th	18	4:36 3.8	10:29 0.0	17:10 3.5	22:44 -0.1											
S		Tu	19	5:19 4.0	11:14 -0.1	17:53 3.3	23:12 -0.1				F	19	6:40 4.3	12:35 -0.5	19:08 4.0		F	19	5:31 4.1	11:22 -0.3	17:57 3.9	23:40 -0.5										
	W	20	6:08 4.2	12:06 -0.3	18:41 3.5					P	S	20	0:47 -0.5	7:30 4.4	18:22 -0.7	19:52 4.2	P	S	20	6:21 4.2	12:10 -0.5	18:43 4.2										
	Th	21	0:05 -0.2	6:57 4.4	12:56 -0.5	19:30 3.7				S	21	1:38 -0.7	8:19 4.4	14:08 -0.7	20:40 4.3	S	21	0:31 -0.7	7:10 4.3	12:56 -0.7	19:28 4.5											
	F	22	0:56 -0.4	7:45 4.4	13:43 -0.6	20:17 3.8				E	M	22	2:29 -0.7	9:07 4.3	14:52 -0.7	21:23 4.3	E	M	22	1:21 -0.8	8:00 4.3	13:40 -0.8	20:14 4.5									
	S	23	1:49 -0.5	8:35 4.4	14:31 -0.6	21:05 3.9				Tu	23	3:16 -0.6	9:58 4.0	15:38 -0.5	22:18 4.2	Tu	23	2:10 -0.8	8:47 4.2	14:25 -0.7	21:01 4.5											
	S	24	2:42 -0.5	9:26 4.2	15:19 -0.5	21:54 3.9				W	24	4:08 -0.4	10:51 3.7	16:24 -0.3	23:10 4.0	W	24	2:56 -0.7	9:36 4.0	15:08 -0.5	21:50 4.4											
	M	25	3:34 -0.4	10:19 4.0	16:05 -0.4	22:36 3.9				Th	25	5:01 -0.1	11:46 3.4	17:11 0.0		Th	25	3:46 -0.5	10:25 3.6	15:53 -0.2	22:43 4.1											
	Tu	26	4:28 -0.3	11:13 3.8	16:54 -0.3	23:40 3.8				D	F	26	0:08 3.8	5:58 0.2	12:48 3.1	18:04 0.3	F	26	4:38 -0.1	11:21 3.3	16:41 0.1	23:40 3.8										
	W	27	5:24 -0.1	12:11 3.5	17:45 -0.1					S	27	1:10 3.6	7:02 0.5	13:53 2.9	19:08 0.6	S	27	5:31 0.2	12:23 3.0	17:38 0.4												
	D	Th	28	0:37 3.8	6:25 0.2	13:15 3.2	18:37 0.2				S	28	2:15 3.5	8:15 0.7	15:00 2.9	20:16 0.7	D	S	28	0:43 3.5	6:35 0.5	13:31 2.9	18:40 0.7									
F		29	1:38 3.7	7:30 0.4	14:15 3.1	19:36 0.4										M	29	1:50 3.3	7:44 0.7	14:39 2.8	19:56 0.8											
S		30	2:39 3.7	8:40 0.5	15:20 3.0	20:39 0.5										Tu	30	2:59 3.3	8:59 0.7	15:44 2.9	21:18 0.8											
S		31	3:40 3.7	9:51 0.5	16:20 3.0	21:41 0.5										W	31	4:00 3.3	10:01 0.7	16:36 3.1	22:23 0.7											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	4:50 3.4	10:46 0.5	17:21 3.3	23:11 0.5	E	S	1	5:04 3.3	10:36 0.4	17:26 3.5	23:15 0.5	O	Tu	1	5:48 3.2	11:08 0.2	18:00 3.9	23:49 0.1												
	F	2	5:37 3.5	11:24 0.3	18:01 3.5	23:48 0.4		S	2	5:44 3.3	11:13 0.2	18:01 3.7	23:49 0.3		W	2	6:28 3.2	11:44 0.1	18:38 4.0	24:00 0.0												
	S	3	6:17 3.5	11:57 0.2	18:36 3.6	24:00 0.0		M	3	6:23 3.4	11:47 0.1	18:35 3.8	24:00 0.0		Th	3	0:31 -0.1	7:09 8.8	12:23 0.0	19:06 4.7												
	S	4	0:24 0.2	6:53 3.6	12:29 0.0	19:10 3.7		Tu	4	0:21 0.1	6:59 3.4	12:21 0.0	19:09 3.9		F	4	1:14 -0.3	7:50 3.3	13:04 0.0	20:00 4.1												
	M	5	0:55 0.1	7:30 3.5	13:01 -0.1	19:43 3.8		W	5	0:58 -0.1	7:35 3.4	12:55 0.0	19:45 4.0		S	5	1:59 -0.3	8:34 3.3	13:49 -0.1	20:47 4.0												
E	Tu	6	1:26 0.0	8:06 3.5	13:33 -0.1	20:16 3.8	Th	6	1:35 -0.2	8:13 3.3	13:30 -0.1	20:23 4.0	S	6	2:44 -0.3	9:21 3.3	14:37 -0.1	21:35 3.9														
	W	7	2:00 -0.1	8:41 3.8	14:04 -0.1	20:51 3.8	F	7	2:15 -0.3	8:53 3.3	14:10 -0.1	21:05 3.9	M	7	3:30 -0.3	10:11 3.2	15:29 0.0	22:29 3.8														
	Th	8	2:36 -0.2	9:18 3.2	14:38 0.0	21:30 3.7	S	8	2:58 -0.3	9:37 3.2	14:53 0.0	21:51 3.7	Tu	8	4:20 -0.2	11:06 3.2	16:24 0.1	23:24 3.6														
	F	9	3:17 -0.2	9:58 3.1	15:15 0.1	22:14 3.5	S	9	3:45 -0.2	10:27 3.0	15:40 0.1	22:45 3.6	W	9	5:12 0.0	12:05 3.2	17:25 0.2	24:00 0.0														
	S	10	4:01 -0.1	10:43 2.9	15:58 0.2	23:03 3.4	M	10	4:35 0.0	11:21 2.9	16:31 0.3	23:40 3.4	Th	10	0:24 3.4	6:08 0.1	13:05 3.3	18:38 0.3														
S	S	11	4:51 0.1	11:47 2.8	16:46 0.3	24:00 0.5	Tu	11	5:30 0.1	12:26 2.9	17:35 0.4	24:00 3.4	F	11	1:29 3.3	7:07 0.1	14:08 3.5	19:41 0.3														
	M	12	0:00 3.3	5:47 0.2	12:44 2.7	17:44 0.5	W	12	0:43 3.3	6:30 0.2	13:31 3.0	18:47 0.4	S	12	2:35 3.4	8:03 0.1	15:00 3.7	20:49 0.2														
	Tu	13	1:07 3.3	6:50 0.3	13:54 2.8	18:55 0.5	Th	13	1:50 3.3	7:33 0.2	14:33 3.2	20:00 0.3	S	13	3:33 3.4	9:00 0.1	15:54 3.9	21:51 0.1														
	W	14	2:11 3.3	7:59 0.3	14:58 3.0	20:15 0.4	F	14	2:57 3.4	8:35 0.1	15:28 3.5	21:10 0.1	M	14	4:28 3.4	9:54 0.0	16:47 4.2	22:50 0.0														
	Th	15	3:18 3.5	9:04 0.2	15:55 3.3	21:26 0.1	S	15	3:57 3.6	9:31 0.0	16:19 3.9	22:11 -0.1	Tu	15	5:20 3.5	10:46 -0.1	17:35 4.3	23:41 -0.1														
P	F	16	4:18 3.7	10:01 0.0	16:45 3.8	22:29 -0.2	S	16	4:50 3.7	10:24 -0.2	17:07 4.2	23:05 -0.3	W	16	6:09 3.6	11:38 -0.2	18:25 4.4	24:00 0.0														
	S	17	5:12 3.9	10:55 -0.3	17:34 4.2	23:24 -0.5	M	17	5:40 3.8	11:12 -0.3	17:55 4.5	23:57 -0.5	Th	17	0:31 -0.2	6:58 3.6	12:25 -0.2	19:11 4.4														
	S	18	6:02 4.1	11:42 -0.5	18:18 4.4	24:00 0.0	Tu	18	6:28 3.9	12:00 -0.4	18:41 4.6	24:00 0.0	F	18	1:19 -0.2	7:46 3.5	13:12 -0.1	20:00 4.3														
	M	19	0:15 -0.7	6:50 4.1	12:28 -0.6	19:03 4.6	W	19	0:45 -0.5	7:15 3.8	12:46 -0.4	19:30 4.5	S	19	2:01 -0.2	8:35 3.5	14:00 0.0	20:49 4.2														
	Tu	20	1:08 -0.8	7:37 4.1	13:11 -0.6	19:50 4.7	Th	20	1:31 -0.5	8:03 3.8	13:31 -0.4	20:16 4.5	S	20	2:45 -0.1	9:24 3.4	14:46 0.1	21:38 3.9														
N	W	21	1:51 -0.7	8:23 4.0	13:56 -0.5	20:37 4.6	F	21	2:19 -0.4	8:51 3.6	14:16 -0.2	21:07 4.3	M	21	3:29 0.0	10:14 3.3	15:35 0.3	22:27 3.7														
	Th	22	2:37 -0.6	9:11 3.8	14:40 -0.3	21:27 4.4	S	22	3:05 -0.2	9:42 3.4	15:03 0.0	21:58 4.0	Tu	22	4:11 0.2	11:06 3.2	16:21 0.5	23:19 3.3														
	F	23	3:25 -0.4	10:03 3.5	15:26 -0.1	22:19 4.1	S	23	3:51 0.0	10:38 3.2	15:54 0.3	22:54 3.7	W	23	4:56 0.3	12:01 3.1	17:12 0.7	24:00 0.0														
	S	24	4:14 -0.1	10:59 3.3	16:15 0.2	23:15 3.7	M	24	4:41 0.2	11:36 3.0	16:49 0.5	23:49 3.4	Th	24	0:11 3.1	5:42 0.4	12:54 3.0	18:05 0.8														
	S	25	5:06 0.2	12:01 3.0	17:12 0.5	24:00 0.0	Tu	25	5:32 0.4	12:38 3.0	17:48 0.8	24:00 0.0	F	25	1:08 2.9	6:28 0.5	13:45 3.0	19:00 0.9														
D	M	26	0:17 3.4	6:05 0.5	13:08 2.9	18:18 0.7	W	26	0:50 3.2	6:26 0.6	13:36 2.9	18:55 0.9	S	26	2:00 2.8	7:15 0.6	14:34 3.1	19:56 0.9														
	Tu	27	1:23 3.2	7:06 0.7	14:14 2.9	19:34 0.9	Th	27	1:52 3.0	7:20 0.6	14:33 3.0	20:03 1.0	S	27	2:52 2.8	8:02 0.6	15:19 3.2	20:51 0.8														
	W	28	2:29 3.1	8:11 0.7	15:14 3.0	20:53 0.9	F	28	2:49 3.0	8:13 0.6	15:23 3.1	21:01 0.9	M	28	3:42 2.8	8:51 0.6	16:02 3.4	21:43 0.6														
	Th	29	3:27 3.1	9:10 0.7	16:05 3.1	21:53 0.8	S	29	3:40 3.0	9:01 0.6	16:06 3.3	21:50 0.8	Tu	29	4:30 2.9	9:39 0.5	16:46 3.6	22:31 0.4														
	F	30	4:19 3.2	9:56 0.5	16:48 3.3	22:39 0.7	S	30	4:25 3.0	9:44 0.5	16:45 3.5	22:30 0.6	W	30	5:15 3.0	10:25 0.3	17:29 3.8	23:20 0.1														
A							M	31	5:09 3.1	10:25 0.4	17:22 3.7	23:10 0.3																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
☾	Th	1	3:04	9:16	15:10	21:25	○	S	1	4:11	10:25	16:21	22:35	P	W	1	5:24	11:38	17:48	23:56
			—0.1	8.0	0.8	9.3				—1.1	8.8	0.1	10.2				—1.8	10.2	—1.3	10.7
	F	2	3:49	10:01	15:54	22:10		M	2	4:59	11:14	17:11	23:25	E	Th	2	6:11	12:24	18:31	...
			—0.5	8.2	0.7	9.6				—1.5	9.2	—0.2	10.3				—1.8	10.4	—1.5	...
	S	3	4:34	10:48	16:39	22:55	P	Tu	3	5:47	12:01	18:01	...		F	3	6:46	6:59	13:16	19:22
☾			—0.9	8.5	0.5	9.9				—1.6	9.5	—0.5	...			10.6	—1.6	10.4	—1.4	...
	S	4	5:20	11:34	17:26	23:42		W	4	6:15	6:34	12:49	18:52		S	4	1:39	7:49	14:01	20:17
			—1.2	8.7	0.8	10.0				10.4	—1.7	9.7	—0.7			10.2	—1.2	10.1	—1.2	...
	M	5	6:08	12:21	18:15	...	E	Th	5	1:05	7:23	13:39	19:44		S	5	2:31	8:40	14:53	21:13
			—1.8	8.9	0.2	...				10.3	—1.5	9.8	—0.8			9.7	—0.6	9.8	—0.8	...
☾	Tu	6	6:56	13:10	19:06	...		F	6	1:57	8:13	14:29	20:39	☾	M	6	3:30	9:36	15:50	22:15
			10.0	—1.3	9.0	0.1				10.0	—1.2	9.8	—0.7			9.0	0.0	9.4	—0.4	...
	P W	7	1:21	7:45	14:01	20:01		S	7	2:52	9:05	15:21	21:36		Tu	7	4:35	10:39	16:52	23:23
			9.9	—1.2	9.1	0.0				9.6	—0.7	9.6	—0.5			8.4	0.6	9.0	—0.1	...
	Th	8	2:14	8:37	14:53	20:59	☾	S	8	3:50	10:00	16:15	22:36	N	W	8	5:45	11:47	17:59	...
☾			9.6	—1.0	9.2	0.0				9.2	—0.8	9.4	—0.3			8.0	1.0	8.8	...	...
	E F	9	3:10	9:30	15:47	21:58		M	9	4:58	11:00	17:15	23:42		Th	9	6:34	6:58	12:56	19:05
			9.3	—0.7	9.2	0.0				8.6	0.3	9.2	—0.1			0.1	7.9	1.0	8.8	...
	☾ S	10	4:09	10:26	16:44	22:59		Tu	10	6:00	12:04	18:19	...		F	10	1:39	8:08	14:01	20:09
			9.0	—0.3	9.2	0.0				8.2	0.6	9.1	...			0.1	8.0	0.9	8.9	...
☾	S	11	5:12	11:24	17:40	...		W	11	6:50	7:10	13:09	19:21		S	11	2:37	9:01	14:59	21:05
			8.8	0.0	9.2	...				0.0	8.1	0.8	9.2			0.0	8.2	0.7	9.1	...
	M	12	6:02	6:14	12:24	18:39	N	Th	12	1:54	8:16	14:11	20:21		S	12	3:28	9:50	15:49	21:54
			—0.1	8.6	0.2	9.3				—0.1	8.1	0.7	9.3			—0.2	8.5	0.6	9.1	...
	Tu	13	1:05	7:21	13:24	19:37		F	13	2:53	9:17	15:09	21:19		M	13	4:13	10:31	16:32	22:37
☾			—0.2	8.4	0.4	9.5				—0.2	8.2	0.6	9.4			—0.3	8.6	0.4	9.1	...
	W	14	2:08	8:25	14:21	20:34		S	14	3:46	10:10	16:01	22:08	☾	Tu	14	4:51	11:08	17:11	23:16
			—0.4	8.4	0.4	9.6				—0.4	8.3	0.6	9.5			—0.2	8.7	0.3	8.9	...
	Th	15	3:04	9:25	15:18	21:29	☾	S	15	4:35	10:55	16:50	22:55		W	15	5:27	11:41	17:45	23:51
			—0.6	8.4	0.4	9.8				—0.5	8.5	0.5	9.4			—0.1	8.7	0.3	8.7	...
☾	N F	16	3:57	10:20	16:10	22:19		M	16	5:16	11:36	17:33	23:36	E	Th	16	5:59	12:10	18:17	...
			—0.7	8.5	0.4	9.8				—0.4	8.5	0.5	9.2	A		0.1	8.7	0.3	...	...
	☾ S	17	4:48	11:10	17:00	23:07		Tu	17	5:55	12:18	18:11	...		F	17	6:24	6:29	12:39	18:49
			—0.8	8.5	0.5	9.7				—0.3	8.5	0.6	...			8.6	0.4	8.6	0.4	...
	S	18	5:34	11:55	17:47	23:53		W	18	6:18	6:31	12:46	18:49		S	18	6:56	7:00	13:10	19:23
☾			—0.7	8.4	0.6	9.5				9.0	—0.1	8.4	0.6			8.4	0.6	8.5	0.4	...
	M	19	6:17	12:39	18:31	...	A	Th	19	6:54	7:05	13:19	19:24		S	19	1:30	7:31	13:44	20:00
			—0.6	8.3	0.7	...	E			8.6	0.1	8.4	0.7			8.1	0.7	8.5	0.5	...
	Tu	20	6:58	13:19	19:15	...		F	20	1:30	7:39	13:53	20:00		M	20	2:08	8:07	14:24	20:45
			9.2	—0.4	8.8	0.8				8.4	0.4	8.4	0.8			8.0	1.0	8.4	0.5	...
☾	W	21	1:20	7:39	13:58	19:59		S	21	2:09	8:15	14:29	20:40		Tu	21	2:51	8:50	15:09	21:34
			8.8	—0.1	8.2	0.9				8.2	0.7	8.3	0.8			7.7	1.2	8.3	0.6	...
	Th	22	2:03	8:20	14:37	20:41		S	22	2:45	8:53	15:07	21:24	☾	W	22	3:43	9:40	16:01	22:30
			8.5	0.2	8.1	1.1				7.9	1.0	8.2	0.9			7.6	1.4	8.2	0.5	...
	A F	23	2:46	9:00	15:17	21:26	☾	M	23	3:29	9:32	15:51	22:11	S	Th	23	4:41	10:40	17:01	23:31
☾			8.1	0.5	8.1	1.2				7.7	1.2	8.2	0.9			7.5	1.5	8.3	0.4	...
	S	24	3:30	9:40	15:59	22:11		Tu	24	4:19	10:21	16:41	23:06		F	24	5:47	11:45	18:05	...
			7.8	0.9	8.1	1.2				7.5	1.4	8.2	0.7			7.6	1.4	8.5	...	...
	☾ S	25	4:16	10:25	16:43	23:01		W	25	5:15	11:14	17:38	...		S	25	6:35	18:51	12:52	19:09
			7.7	1.1	8.1	1.2				7.4	1.5	8.3	...			0.2	7.9	1.1	8.9	...
☾	M	26	5:05	11:11	17:31	23:52		Th	26	6:05	6:16	12:15	18:35		S	26	1:35	7:52	13:54	20:09
			7.5	1.2	8.2	1.0				0.6	7.5	1.4	8.6			—0.3	8.5	0.5	9.4	...
	Tu	27	5:59	12:01	18:20	...	S	F	27	1:05	7:19	13:16	19:33		M	27	2:31	8:46	14:51	21:03
			7.4	1.3	8.3	...				0.2	7.7	1.1	9.0			—0.8	9.1	—0.2	9.9	...
	W	28	6:45	6:55	12:54	19:11		S	28	2:01	8:17	14:15	20:30		Tu	28	3:22	9:37	15:44	21:56
☾			0.7	7.5	1.8	8.6				—0.2	8.1	0.7	9.4			—1.3	9.8	—0.9	10.3	...
	Th	29	1:39	7:50	13:47	20:05		S	29	2:56	9:12	15:11	21:24	☾	W	29	4:11	10:25	16:34	22:46
			0.8	7.7	1.1	9.0				—0.7	8.7	0.1	10.0			—1.6	10.3	—1.5	10.6	...
	S F	30	2:31	8:45	14:39	20:55		M	30	3:48	10:02	16:03	22:16		Th	30	5:00	11:10	17:22	23:36
			—0.1	8.0	0.8	9.4				—1.3	9.3	—0.4	10.4			—1.7	10.7	—1.8	10.8	...
☾	S	31	3:21	9:37	15:31	21:46	☾	Tu	31	4:36	10:50	16:54	23:06							
			—0.6	8.4	0.5	9.8				—1.6	9.8	—0.9	10.6							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☾, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
	F	1	2:00 -0.7	8:35 4.6	14:33 -0.8	21:08 4.0		M	1	3:02 -0.2	9:54 4.3	15:52 -0.2	22:33 3.4	
	S	2	2:42 -0.6	9:25 4.5	15:22 -0.6	21:58 3.7	N	Tu	2	3:58 0.0	10:51 4.0	16:45 0.1	23:34 3.2	
	S	3	3:28 -0.8	10:15 4.8	16:12 -0.3	22:54 3.4		W	3	4:30 0.3	11:50 3.6	17:42 0.3		
	M	4	4:15 0.0	11:15 4.0	17:06 0.0	23:54 3.2	☾	Th	4	5:09 3.0	5:55 0.6	12:56 3.4	18:44 0.5	
N	Tu	5	5:08 0.3	12:13 3.7	18:07 0.3			F	5	1:45 3.0	7:07 0.8	14:03 3.2	19:48 0.6	
☾	W	6	1:00 3.0	6:13 0.5	13:21 3.5	19:13 0.6		S	6	2:48 3.0	8:28 0.8	15:05 3.2	20:49 0.6	
	Th	7	2:10 2.9	7:27 0.7	14:30 3.4	20:28 0.7		S	7	3:44 3.2	9:40 0.8	16:00 3.2	21:40 0.5	
	F	8	3:17 3.0	8:50 0.7	15:36 3.4	21:36 0.6		M	8	4:30 3.4	10:30 0.7	16:48 3.2	22:21 0.4	
	S	9	4:13 3.1	10:05 0.6	16:30 3.4	22:28 0.5		Tu	9	5:11 3.5	11:08 0.5	17:28 3.3	23:00 0.3	
	S	10	5:02 3.3	11:00 0.5	17:20 3.5	23:07 0.3		W	10	5:47 3.7	11:40 0.4	18:08 3.3	23:32 0.2	
	M	11	5:43 3.5	11:40 0.4	18:00 3.5	23:42 0.2		Th	11	6:23 3.8	12:12 0.2	18:45 3.3		
	Tu	12	6:20 3.7	12:12 0.2	18:40 3.5		●	F	12	0:06 0.1	6:56 8.9	12:45 0.0	19:22 3.3	
E	W	13	0:15 0.1	6:55 3.8	12:45 0.1	19:15 3.5		S	13	0:38 0.1	7:32 3.9	13:21 -0.1	19:58 3.2	
●	Th	14	0:48 0.0	7:30 3.9	13:15 0.0	19:51 3.4		S	14	1:13 0.1	8:08 3.9	14:00 -0.2	20:40 3.2	
	F	15	1:19 0.0	8:08 3.8	13:48 0.0	20:27 3.3		M	15	1:50 0.1	9:47 3.8	14:40 -0.2	21:21 3.1	
	S	16	1:48 0.0	8:37 3.8	14:23 -0.1	21:05 3.2		Tu	16	2:32 0.1	9:32 3.7	15:25 -0.1	22:07 3.0	
	S	17	2:20 0.1	9:05 3.6	15:00 -0.1	21:42 3.0		W	17	3:17 0.2	10:19 3.5	16:12 0.0	23:00 2.9	
	M	18	2:56 0.1	9:55 3.5	15:43 0.0	22:25 2.9		Th	18	4:07 0.3	11:14 3.4	17:03 0.1	23:58 2.9	
	Tu	19	3:36 0.2	10:42 3.4	16:28 0.1	23:15 2.7		F	19	5:05 0.4	12:14 3.3	18:00 0.2		
S	W	20	4:22 0.4	11:35 3.2	17:21 0.2		☾	S	20	1:00 2.9	6:12 0.4	13:18 3.3	19:00 0.2	
	Th	21	0:17 2.7	5:17 0.5	12:35 3.2	18:20 0.3		S	21	2:01 3.1	7:25 0.4	14:28 3.3	20:00 0.1	
☾	F	22	1:24 2.7	6:23 0.6	13:42 3.2	19:25 0.3		M	22	2:58 3.4	8:33 0.2	15:27 3.4	20:58 0.0	
	S	23	2:31 2.9	7:41 0.5	14:48 3.3	20:30 0.2		Tu	23	3:52 3.8	9:38 0.0	16:22 3.5	21:51 -0.1	
	S	24	3:29 3.2	8:55 0.3	15:50 3.5	21:30 0.0		W	24	4:40 4.1	10:35 -0.2	17:13 3.7	22:42 -0.2	
	M	25	4:20 3.6	10:00 0.0	16:47 3.8	22:25 -0.2		Th	25	5:28 4.4	11:30 -0.4	18:02 3.8	23:32 -0.4	
	Tu	26	5:07 4.0	10:57 -0.3	17:37 3.9	23:13 -0.4		F	26	6:17 4.6	12:20 -0.5	18:51 3.8		
E	W	27	5:53 4.3	11:50 -0.6	18:25 4.0		☾	S	27	0:22 -0.5	7:05 4.7	13:08 -0.5	19:38 3.8	
P	Th	28	0:01 -0.5	6:39 4.6	12:38 -0.7	19:12 4.1		S	28	1:07 -0.4	7:53 4.6	13:57 -0.5	20:27 3.7	
	F	29	0:46 -0.6	7:29 4.7	13:27 -0.8	19:58 4.0	N	M	29	1:55 -0.3	8:44 4.5	14:45 -0.4	21:20 3.5	
	S	30	1:30 -0.6	8:12 4.7	14:14 -0.7	20:47 3.8		Tu	30	2:44 -0.1	9:36 4.2	15:33 -0.2	22:13 3.4	
	S	31	2:15 -0.5	9:03 4.5	15:02 -0.5	21:38 3.6								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N C	F	1	4:46 2.7	11:36 0.0	17:29 2.0	23:35 -0.1				M	1	0:14 0.1	6:20 2.7	13:15 0.0	19:21 1.9		N	M	1	5:06 2.5	12:00 0.1	18:13 1.9	23:59 0.1						
	S	2	5:46 2.8	12:35 -0.1	18:31 2.0					N	Tu	2	1:07 0.0	7:12 2.7	14:01 0.0	20:12 2.0		Tu	2	6:04 2.5	12:55 0.1	19:09 1.9							
	S	3	0:31 -0.1	6:36 2.9	13:28 -0.1	19:29 2.0				W	3	1:57 0.0	8:00 2.7	14:47 -0.1	20:55 2.0		W	3	0:55 0.1	6:59 2.5	13:41 0.0	19:55 2.0							
	M	4	1:21 -0.1	7:25 2.9	14:19 -0.2	20:19 2.0				Th	4	2:46 0.0	8:45 2.7	15:28 -0.2	21:34 2.1		Th	4	1:45 0.1	7:46 2.5	14:22 -0.1	20:31 2.1							
	Tu	5	2:10 0.0	8:14 2.9	15:05 -0.2	21:07 2.0				O	F	5	3:31 0.1	9:29 2.6	16:06 -0.2	22:08 2.1		F	5	2:30 0.0	8:28 2.5	15:00 -0.1	21:04 2.2						
	W	6	3:00 0.0	9:00 2.9	15:49 -0.2	21:49 2.0				S	6	4:14 0.1	10:06 2.6	16:44 -0.1	22:42 2.2		O	S	6	3:11 0.0	9:06 2.5	15:36 -0.1	21:34 2.3						
	Th	7	3:48 0.1	9:44 2.8	16:31 -0.2	22:34 2.0				S	7	4:56 0.2	10:41 2.4	17:21 0.0	23:14 2.2		A	S	7	3:50 0.0	9:40 2.4	16:10 -0.1	22:01 2.4						
	F	8	4:35 0.1	10:29 2.7	17:14 -0.2	23:14 2.1				A	M	8	5:39 0.2	11:20 2.3	17:58 0.1	23:50 2.3		M	8	4:29 0.1	10:15 2.4	16:44 0.0	22:34 2.5						
	S	9	5:21 0.2	11:10 2.5	17:56 -0.1	23:56 2.1				E	Tu	9	6:22 0.3	11:54 2.2	18:35 0.2		Tu	9	5:06 0.1	10:45 2.3	17:15 0.1	23:05 2.5							
	S	10	6:10 0.8	11:51 2.3	18:40 0.0					W	10	0:28 2.4	7:09 0.4	12:29 2.1	19:12 0.3		W	10	5:46 0.2	11:17 2.2	17:47 0.2	23:41 2.5							
A	M	11	0:36 2.1	7:00 0.4	12:34 2.2	19:22 0.1			Th	11	1:11 2.3	7:59 0.4	13:09 2.0	19:53 0.4		Th	11	6:29 0.2	11:50 2.1	18:21 0.4									
E C	Tu	12	1:18 2.1	7:51 0.5	13:15 2.0	20:05 0.2			F	12	1:55 2.3	8:54 0.4	13:54 1.8	20:41 0.5		F	12	0:24 2.5	7:18 0.2	12:30 2.0	18:58 0.5								
	W	13	2:02 2.2	8:45 0.5	14:01 1.9	20:51 0.3			C	S	13	2:48 2.4	9:54 0.4	14:51 1.7	21:35 0.5		S	13	1:13 2.4	8:14 0.3	13:20 1.9	19:49 0.6							
	Th	14	2:50 2.3	9:38 0.5	14:53 1.8	21:36 0.3			S	14	3:45 2.4	10:50 0.3	16:04 1.7	22:35 0.4		C	S	14	2:09 2.4	9:16 0.3	14:21 1.8	20:57 0.6							
	F	15	3:36 2.3	10:31 0.4	15:51 1.7	22:24 0.4			M	15	4:48 2.5	11:46 0.2	17:17 1.8	23:34 0.3		M	15	3:10 2.4	10:19 0.2	15:37 1.8	22:09 0.5								
	S	16	4:26 2.4	11:24 0.3	16:49 1.7	23:11 0.4			S	Tu	16	5:40 2.6	12:39 0.1	18:19 1.9		S	Tu	16	4:15 2.5	11:17 0.1	16:51 1.9	23:15 0.3							
	S	17	5:16 2.5	12:16 0.2	17:46 1.8				W	17	0:32 0.1	6:35 2.8	13:27 -0.2	19:10 2.1		W	17	5:18 2.6	12:10 0.0	17:56 2.1									
	M	18	6:01 0.3	13:07 2.7	18:05 0.0	18:41 1.9			Th	18	1:25 0.0	7:28 2.9	14:14 -0.3	20:00 2.3		Th	18	0:16 0.1	6:15 2.7	13:00 -0.2	18:48 2.3								
	Tu	19	6:51 0.2	13:56 2.8	18:51 -0.2	19:31 2.0			F	19	2:15 -0.2	8:19 3.0	14:59 -0.5	20:47 2.6		F	19	1:10 -0.1	7:08 2.8	13:48 -0.3	19:38 2.6								
	S	W	20	1:40 0.1	7:46 3.0	14:39 -0.3	20:20 2.2		●	S	20	3:06 -0.3	9:06 3.0	15:44 -0.5	21:34 2.7		S	20	2:01 -0.3	8:00 2.9	14:31 -0.4	20:23 2.8							
	●	Th	21	2:30 0.0	8:38 3.1	15:23 -0.4	21:08 2.3			S	21	3:56 -0.4	9:56 3.0	16:29 -0.5	22:21 2.9		P	S	21	2:51 -0.5	8:49 3.0	15:16 -0.5	21:08 3.0						
P	F	22	3:20 -0.1	9:24 3.1	16:09 -0.5	21:56 2.5			E	M	22	4:48 -0.4	10:45 2.9	17:14 -0.5	23:10 2.9		E	M	22	3:40 -0.6	9:37 2.9	16:00 -0.5	21:55 3.0						
	S	23	4:10 -0.2	10:14 3.0	16:56 -0.5	22:42 2.6			Tu	23	5:41 -0.4	11:36 2.8	18:00 -0.4			Tu	23	4:31 -0.5	10:25 2.8	16:44 -0.4	22:42 3.1								
	S	24	5:04 -0.2	11:05 2.9	17:41 -0.4	23:35 2.7			W	24	0:01 2.9	6:40 -0.3	12:29 2.5	18:51 -0.2		W	24	5:23 -0.5	11:14 2.6	17:31 -0.3	23:35 3.0								
	M	25	6:00 -0.2	11:56 2.7	18:31 -0.4				Th	25	0:55 2.8	7:39 -0.2	13:26 2.3	19:49 -0.1		Th	25	6:18 -0.4	12:06 2.4	18:23 -0.1									
	Tu	26	6:59 2.7	12:50 -0.1	19:22 2.6	-0.2			D	F	26	1:54 2.7	8:43 0.0	14:33 2.1	20:50 0.1		F	26	0:29 2.9	7:16 -0.3	13:06 2.2	19:21 0.1							
	W	27	1:24 2.7	8:02 0.0	13:49 2.4	20:17 -0.1			S	27	2:56 2.6	9:50 0.1	15:45 1.9	21:54 0.1		S	27	1:28 2.7	8:19 -0.1	14:15 2.0	20:28 0.2								
	Th	28	2:21 2.7	9:07 0.0	14:55 2.1	21:16 0.0			S	28	4:00 2.5	10:56 0.2	17:04 1.8	22:59 0.2		D	S	28	2:29 2.5	9:25 0.1	15:30 1.9	21:33 0.3							
	F	29	3:22 2.6	10:14 0.1	16:04 2.0	22:15 0.0										M	29	3:26 2.4	10:30 0.1	16:46 1.9	22:40 0.3								
	S	30	4:21 2.6	11:19 0.1	17:15 1.9	23:15 0.1										Tu	30	4:44 2.8	11:31 0.1	17:52 1.9	23:40 0.2								
	S	31	5:22 2.7	12:20 0.1	18:24 1.9											W	31	5:46 2.3	12:23 0.1	18:44 2.0									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	2:16 1.3	8:25 8.9	14:48 0.7	21:06 8.2	E	S	1	2:34 1.2	8:39 8.5	14:53 0.8	21:06 8.6	O	Tu	1	3:21 0.4	9:27 8.5	15:33 0.8	21:45 9.5
	F	2	3:09 1.1	9:17 9.0	15:35 0.6	21:50 8.5		S	2	3:18 0.9	9:25 8.6	15:35 0.7	21:46 8.9		W	2	4:04 0.0	10:10 8.7	16:15 0.7	22:25 9.8
	S	3	3:55 0.9	10:02 9.1	16:18 0.4	22:28 8.8		M	3	4:00 0.6	10:18 8.8	16:15 0.6	22:22 9.3		Th	3	4:47 -0.3	10:53 8.9	16:56 0.6	23:07 10.1
	S	4	4:35 0.6	10:44 9.1	16:55 0.3	23:00 9.0		Tu	4	4:38 0.2	10:47 8.9	16:53 0.5	23:00 9.5		F	4	5:31 -0.6	11:37 9.0	17:38 0.6	23:50 10.2
	M	5	5:12 0.4	11:20 9.2	17:30 0.3	23:35 9.2		W	5	5:18 -0.1	11:25 9.0	17:30 0.5	23:37 9.7		S	5	6:15 -0.8	12:20 9.1	18:20 0.6	24:10 10.2
C	Tu	6	5:48 0.2	11:55 9.2	18:06 0.4		Th	6	5:56 -0.4	12:04 9.1	18:07 0.6		S	6	6:35 10.3	7:01 -0.9	13:06 9.1	19:06 0.6		
	W	7	6:11 9.4	12:25 0.0	18:31 9.2	18:40 0.4	F	7	6:17 9.9	6:38 -0.5	18:43 9.1	18:46 0.7	M	7	7:19 10.3	7:49 -0.9	13:55 9.1	19:56 0.7		
	Th	8	6:46 9.5	7:03 0.0	13:08 9.1	19:15 0.6	S	8	6:57 9.9	7:21 -0.5	13:26 9.0	19:28 0.7	Tu	8	8:12 10.1	8:38 -0.7	14:46 9.1	20:51 0.7		
	F	9	7:24 9.6	7:44 0.0	13:49 9.0	19:54 0.8	S	9	7:41 9.8	8:07 -0.5	14:12 8.9	20:15 1.0	W	9	9:06 9.8	9:32 -0.5	15:40 9.1	21:48 0.7		
	S	10	8:05 9.4	8:28 0.0	14:32 8.8	20:36 1.1	M	10	8:28 9.6	8:57 -0.3	15:02 8.7	21:06 1.1	Th	10	10:27 9.6	10:53 -0.4	16:37 9.2	22:18 0.6		
S	S	11	8:50 9.8	9:17 0.1	15:21 8.5	21:25 1.3	Tu	11	9:05 9.5	9:50 -0.1	15:57 8.6	22:03 1.2	F	11	11:24 9.4	11:50 -0.1	17:36 9.3	23:52 0.4		
	M	12	9:41 9.2	10:10 0.3	16:16 8.4	22:21 1.5	W	12	10:17 9.8	10:47 0.1	16:57 8.6	23:05 1.1	S	12	12:22 9.3	12:48 0.0	18:35 9.5			
	Tu	13	10:37 9.1	11:08 0.4	17:15 8.3	23:23 1.4	Th	13	11:08 9.3	11:46 0.1	17:58 8.8		S	13	13:17 0.1	13:43 9.2	19:32 0.0	20:28 9.9		
	W	14	12:09 9.1	12:39 0.3	18:16 8.4		F	14	12:45 0.8	13:22 9.3	18:56 0.1	18:56 9.2	M	14	14:13 -0.3	14:39 9.3	20:28 -0.1	21:33 10.3		
	Th	15	13:09 1.1	6:43 9.3	13:09 0.2	19:18 8.7	S	15	13:43 0.8	7:25 9.4	13:43 -0.1	19:55 9.6	Tu	15	15:07 -0.7	15:33 9.4	21:07 -0.2	22:12 10.6		
P	F	16	14:09 0.6	7:45 9.6	14:09 -0.2	20:18 9.3	S	16	14:38 -0.2	8:24 9.7	14:38 -0.3	20:50 10.2	W	16	16:00 -0.9	16:26 9.4	21:00 -0.2	22:13 10.8		
	S	17	15:03 0.0	8:45 10.0	15:03 -0.6	21:13 9.9	M	17	15:31 10.0	9:21 -0.6	15:31 -0.6	21:41 10.7	Th	17	16:50 -1.1	17:16 9.4	21:50 -0.2	23:03 10.9		
	S	18	15:56 -0.7	9:40 10.4	15:56 -0.9	22:05 10.5	Tu	18	16:21 10.1	10:15 -0.7	16:21 -0.7	22:32 11.0	F	18	17:38 -1.2	18:04 9.3	23:52 -0.1	25:03 10.8		
	M	19	16:45 -1.3	10:35 10.7	16:45 -1.2	22:55 11.0	W	19	17:11 10.1	11:07 -0.7	17:11 -0.7	23:20 11.2	S	19	18:28 -1.2	18:54 9.2				
	Tu	20	17:34 -1.7	11:25 10.8	17:34 -1.2	23:45 11.3	Th	20	17:58 10.0	11:55 -0.6	17:58 -0.6		S	20	19:13 10.7	19:39 -1.0	20:28 9.0	21:33 11.3		
N	W	21	18:21 -2.0	12:15 10.8	18:21 -1.1		F	21	18:47 11.2	12:45 -1.6	18:47 -1.6	18:47 -0.3	M	21	20:01 10.2	20:27 -0.7	21:00 8.9	22:01 0.7		
	Th	22	19:10 11.3	6:53 -1.9	13:02 10.4	19:10 -0.8	S	22	19:35 10.9	7:22 -1.4	13:34 9.5	19:35 0.1	Tu	22	21:46 9.8	22:12 -0.3	23:00 8.6	24:00 1.0		
	F	23	20:00 11.2	7:42 -1.6	13:53 10.0	20:00 -0.4	S	23	20:27 10.5	8:12 -1.0	14:23 9.1	20:27 0.5	W	23	23:00 9.3	23:26 0.1	24:00 8.5	25:00 1.3		
	S	24	20:50 10.7	8:33 -1.2	14:45 9.5	20:50 0.2	M	24	21:19 10.0	9:02 -0.5	15:12 8.7	21:19 0.9	Th	24	24:00 8.8	24:26 0.4	25:00 8.4	26:00 1.4		
	S	25	21:45 10.2	9:27 -0.6	15:39 8.9	21:45 0.7	Tu	25	22:12 9.4	9:54 -0.1	16:07 8.5	22:12 1.4	F	25	25:00 8.4	25:26 0.7	26:00 8.4	27:00 1.5		
D	M	26	22:42 9.6	10:22 -0.1	16:37 8.5	22:42 1.2	W	26	23:10 8.9	10:45 0.4	17:01 8.3	23:10 1.5	S	26	26:00 8.1	26:26 1.0	27:00 8.5			
	Tu	27	23:44 9.1	11:20 0.4	17:37 8.1	23:44 1.4	Th	27	23:58 8.6	11:38 0.7	17:58 8.2		S	27	27:00 1.4	27:26 8.0	28:00 1.1	29:00 8.6		
	W	28	24:40 8.7	12:19 0.7	18:36 8.0		F	28	24:46 1.6	6:11 8.3	12:30 0.9	24:46 8.3	M	28	28:00 1.2	28:26 8.0	29:00 1.1	30:00 8.9		
	Th	29	25:32 1.5	6:52 8.5	13:15 0.8	19:32 8.0	S	29	25:38 1.6	7:04 8.2	13:20 1.0	25:38 8.5	Tu	29	29:00 0.8	29:26 8.1	30:00 1.1	31:00 9.2		
	F	30	26:23 1.4	7:49 8.5	14:06 0.8	20:23 8.3	S	30	26:29 0.9	7:54 8.3	14:06 0.9	26:29 9.1	W	30	30:00 0.4	30:26 8.3	31:00 1.0	32:00 9.6		
							M	31	27:27 0.9	8:43 8.3	14:51 0.9	27:27 9.1								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 76th meridian, W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
SO	Th	1	3:31 0.0	9:37 8.5	15:41 0.8	21:54 10.0	○	S	1	4:42 -1.0	10:49 9.8	16:52 0.0	23:07 10.9	P	W	1	5:56 -1.6	12:08 10.6	18:14 -1.3	...												
	F	2	4:19 -0.5	10:25 8.8	16:27 0.6	22:40 10.4		M	2	5:31 -1.8	11:38 9.7	17:42 -0.4	23:58 11.1	E	Th	2	6:27 11.8	6:43 -1.6	12:51 10.8	19:05 -1.5												
	S	3	5:07 -0.9	11:12 9.1	17:12 0.4	23:27 10.6	P	Tu	3	6:19 -1.5	12:26 10.1	18:32 -0.6	...		F	3	1:18 11.1	7:31 -1.4	13:40 10.8	19:56 -1.4												
	S	4	5:53 -1.1	12:00 9.3	18:00 0.2	...		W	4	6:47 11.1	7:08 -1.5	18:15 10.2	19:23 -0.8		S	4	2:09 10.7	8:21 -1.0	14:32 10.7	20:50 -1.1												
	M	5	6:15 10.7	6:41 -1.3	12:47 9.5	18:49 0.1	E	Th	5	1:37 10.9	7:57 -1.8	14:05 10.3	20:16 -0.7		S	5	3:02 10.2	9:13 -0.5	15:26 10.4	21:47 -0.8												
	Tu	6	1:05 10.7	7:30 -1.2	13:36 9.6	19:40 0.0		F	6	2:30 10.6	8:47 -1.0	14:57 10.2	21:11 -0.6	☾	M	6	3:59 9.6	10:08 0.0	16:23 10.1	22:47 -0.4												
	P	W	7	1:55 10.6	8:19 -1.1	14:28 9.7	20:35 0.0		S	7	3:23 10.1	9:39 -0.6	15:52 10.1	22:10 -0.4		Tu	7	4:59 9.0	11:08 0.5	17:23 9.8	23:50 0.0											
	Th	8	2:48 10.3	9:10 -0.8	15:21 9.7	21:31 0.0	☾	S	8	4:20 9.6	10:33 -0.2	16:49 10.0	23:10 -0.3		N	W	8	6:03 8.5	12:10 0.8	18:26 9.5	...											
	E	F	9	3:43 10.0	10:04 -0.5	16:16 9.7	22:30 0.0		M	9	5:20 9.1	11:31 0.2	17:47 9.9	...		Th	9	6:55 0.8	7:10 8.3	13:13 0.9	19:29 9.5											
	☾	S	10	4:41 9.6	11:00 -0.2	17:13 9.7	23:31 0.0		Tu	10	6:12 -0.1	6:22 8.8	12:31 0.4	18:48 9.8		F	10	1:57 0.8	8:15 8.8	14:15 0.9	20:28 9.5											
	S	11	5:41 9.2	11:56 0.0	18:11 9.8	...		W	11	1:15 0.1	7:27 8.5	13:31 0.6	19:48 9.8		S	11	2:55 0.3	9:12 8.4	15:12 0.7	21:23 9.6												
	M	12	6:34 -0.1	6:42 9.0	12:56 0.2	19:10 10.0	N	Th	12	2:17 0.1	8:31 8.4	14:31 0.6	20:46 10.0		S	12	3:46 0.1	10:02 8.7	16:02 0.5	22:12 9.7												
Tu	13	1:34 -0.2	7:45 8.9	13:51 0.3	20:07 10.2		F	13	3:15 -0.1	9:30 8.5	15:27 0.5	21:40 10.0		M	13	4:31 0.0	10:44 8.9	16:47 0.4	22:55 9.7													
W	14	2:34 -0.3	8:45 8.8	14:48 0.3	21:03 10.3		S	14	4:07 -0.2	10:22 8.6	16:19 0.5	22:30 10.1	●	Tu	14	5:12 0.0	11:22 9.0	17:21 0.3	23:35 9.6													
Th	15	3:32 -0.5	9:43 8.8	15:42 0.3	21:56 10.5	●	S	15	4:55 -0.3	11:08 8.8	17:06 0.4	23:16 10.1		W	15	5:48 0.0	11:56 9.2	18:08 0.3	...													
N	F	16	4:23 -0.6	10:37 8.9	16:34 0.3	22:47 10.5		M	16	5:38 -0.3	11:48 8.8	17:49 0.4	23:58 9.9	E	Th	16	6:11 9.4	6:23 0.2	12:29 9.2	18:40 0.3												
●	S	17	5:12 -0.7	11:25 8.9	17:22 0.3	23:34 10.5		Tu	17	6:17 -0.3	12:27 8.9	18:30 0.5	...	A	F	17	6:47 9.2	6:58 0.4	13:04 9.1	19:17 0.4												
S	18	5:58 -0.7	12:10 8.9	18:08 0.4	...		W	18	6:38 9.7	6:55 -0.1	13:01 8.9	19:09 0.6		S	18	1:22 9.0	7:32 0.6	13:40 9.1	19:55 0.5													
M	19	6:19 10.3	6:42 -0.6	12:52 8.9	18:53 0.5	A	Th	19	1:17 9.8	7:33 0.1	13:40 8.9	19:49 0.7		S	19	2:00 8.7	8:08 0.9	14:17 9.0	20:36 0.6													
Tu	20	1:03 9.9	7:25 -0.4	13:34 8.8	19:36 0.8		F	20	1:55 9.0	8:10 0.4	14:17 8.8	20:28 0.8		M	20	2:40 8.4	8:49 1.2	15:00 8.9	21:22 0.7													
W	21	1:45 9.6	8:06 -0.1	14:15 8.8	20:20 1.0		S	21	2:34 8.7	8:48 0.7	14:57 8.8	21:10 0.9		Tu	21	3:25 8.2	9:33 1.5	15:47 8.8	22:13 0.8													
Th	22	2:28 9.1	8:47 0.2	14:56 8.7	21:05 1.2		S	22	3:15 8.4	9:30 1.0	15:39 8.7	21:57 1.1	☽	W	22	4:16 8.0	10:24 1.7	16:42 8.7	23:09 0.8													
F	23	3:10 8.7	9:29 0.6	15:40 8.6	21:50 1.3	☽	M	23	4:00 8.1	10:13 1.4	16:26 8.7	22:48 1.1	S	Th	23	5:13 7.9	11:22 1.7	17:38 8.8	...													
S	24	3:55 8.4	10:13 0.9	16:24 8.5	22:38 1.3		Tu	24	4:50 7.9	11:02 1.5	17:17 8.7	23:42 1.0		F	24	6:08 0.7	6:13 8.0	12:22 1.5	18:40 9.1													
☽	S	25	4:41 8.1	10:58 1.1	17:11 8.6	23:29 1.4		W	25	5:44 7.8	11:55 1.6	18:12 8.9	...		S	25	1:08 0.4	7:15 8.3	13:24 1.0	19:40 9.5												
M	26	5:31 7.9	11:45 1.3	18:00 8.8	...		Th	26	6:38 0.8	6:42 7.9	12:52 1.4	19:09 9.2		S	26	2:06 0.0	8:14 8.9	14:24 0.4	20:38 10.0													
Tu	27	6:20 1.3	6:23 7.8	12:35 1.4	18:51 8.9	S	F	27	1:36 0.4	7:41 8.2	13:50 1.1	20:05 9.6		M	27	3:00 -0.5	9:09 9.5	15:20 -0.3	21:34 10.5													
W	28	1:15 0.8	7:16 7.9	13:27 1.4	19:42 9.3		S	28	2:33 -0.1	8:38 8.6	14:45 0.6	21:01 10.1		Tu	28	3:52 -1.0	10:00 10.2	16:13 -1.0	22:27 11.0													
Th	29	2:08 0.4	8:12 8.2	14:18 1.1	20:34 9.7		S	29	3:27 -0.6	9:33 9.2	15:40 0.0	21:55 10.6	☾	W	29	4:42 -1.4	10:50 10.7	17:04 -1.5	23:17 11.2													
S	F	30	3:01 -0.1	9:06 8.5	15:09 0.7	21:27 10.1		M	30	4:18 -1.1	10:25 9.7	16:32 -0.6	22:47 11.0	E	Th	30	5:30 -1.5	11:40 11.1	17:55 -1.9	...												
S	31	3:52 -0.6	9:58 8.9	16:01 0.4	22:17 10.6	○	Tu	31	5:08 -1.4	11:14 10.2	17:24 -1.0	23:37 11.2																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.	H. Water.				L. Water.					W.	Mo.	H. Water.				L. Water.					W.	Mo.	H. Water.				L. Water.			
N	F	1	4:17	10:17	16:54	22:48					M	1	5:30	11:40	18:24	24:14					W	1	0:05	6:10	12:13	18:56						
			—0.4	3.1	—0.6	2.6							—0.1	3.0	—0.4	2.5							2.1	0.1	2.7	—0.3						
	S	2	5:04	11:08	17:48	23:40					Tu	2	0:20	6:30	12:35	19:22					Th	2	1:05	7:10	13:10	19:50						
			—0.3	3.1	—0.5	2.4							2.2	0.1	2.8	—0.2							2.1	0.2	2.5	—0.1						
	S	3	5:55	12:00	18:44	24:36					W	3	1:25	7:32	13:36	20:22					F	3	2:05	8:14	14:10	20:46						
			—0.2	3.0	—0.3	2.4							2.0	0.2	2.6	—0.1							2.1	0.3	2.8	0.0						
	M	4	0:36	6:50	12:56	19:44					Th	4	2:35	8:40	14:40	21:24					S	4	3:06	9:20	15:15	21:40						
			2.2	0.0	2.8	—0.2							2.0	0.3	2.4	0.0							2.1	0.4	2.1	0.1						
	Tu	5	1:40	7:54	13:58	20:48					F	5	3:45	9:48	15:50	22:23					S	5	4:02	10:22	16:18	22:34						
			2.1	0.1	2.6	0.0							2.0	0.3	2.2	0.1							2.1	0.4	2.0	0.1						
C	W	6	2:54	9:00	15:05	21:56				S	6	4:49	10:54	16:58	23:16					E	M	6	4:50	11:18	17:15	23:20						
			1.9	0.2	2.5	0.1						2.1	0.3	2.2	0.1							2.2	0.4	1.9	0.1							
	Th	7	4:10	10:06	16:15	22:57				S	7	5:40	11:50	17:54	24:06					A	Tu	7	5:34	12:07	18:06	24:06						
			1.9	0.3	2.4	0.1						2.2	0.3	2.1	0.1							2.3	0.3	1.9	0.1							
	F	8	5:22	11:12	17:22	23:54				M	8	0:05	6:22	12:40	18:40							W	8	0:05	6:12	12:53	18:46					
			2.0	0.2	2.3	0.1						0.1	2.3	0.2	2.1								0.2	2.4	0.2	1.8						
	S	9	6:18	12:12	18:20	24:48				Tu	9	0:48	6:58	13:24	19:24							Th	9	0:45	6:50	13:33	19:25					
			2.1	0.2	2.3	0.1						0.1	2.4	0.1	2.1								0.2	2.5	0.1	1.8						
	S	10	0:43	7:02	13:05	19:12				W	10	1:26	7:32	14:00	20:00							F	10	1:25	7:25	14:12	20:00					
			0.0	2.2	0.1	2.3						0.0	2.5	0.0	2.0								0.2	2.6	0.1	1.8						
E	M	11	1:25	7:38	13:50	19:54			Th	11	2:04	8:00	14:40	20:30							S	11	2:04	8:04	14:52	20:35						
			0.0	2.3	0.0	2.3					0.1	2.6	0.0	2.0									0.2	2.7	—0.1	1.9						
	Tu	12	2:05	8:10	14:30	20:30			F	12	2:38	8:34	15:18	21:04							S	12	2:40	8:48	15:32	21:10						
			0.0	2.4	0.0	2.3					0.1	2.7	—0.1	2.0									0.3	2.8	—0.2	1.9						
	W	13	2:40	8:40	15:08	21:03			S	13	3:10	9:10	15:55	21:30							M	13	3:17	9:22	16:14	21:50						
			0.0	2.5	0.0	2.2					0.2	2.7	—0.1	2.0									0.3	2.8	—0.2	2.0						
	Th	14	3:13	9:10	15:45	21:34			S	14	3:45	9:45	16:37	22:06							S	Tu	14	4:00	10:05	16:58	22:35					
			0.0	2.6	0.0	2.2					0.3	2.7	—0.1	2.0									0.3	2.8	—0.2	2.1						
	F	15	3:48	9:40	16:20	22:04			M	15	4:17	10:26	17:20	22:48							W	15	4:42	10:50	17:45	23:20						
			0.1	2.6	—0.1	2.1					0.4	2.7	—0.1	2.0									0.3	2.8	—0.2	2.1						
S	S	16	4:20	10:16	17:00	22:35			Tu	16	4:55	11:10	18:08	23:34							Th	16	5:34	11:40	18:30	24:06						
			0.2	2.6	0.0	2.0					0.4	2.6	—0.1	2.0									0.3	2.7	—0.2	2.1						
	S	17	4:50	10:54	17:45	23:07			W	17	5:40	11:58	18:58	24:28							F	17	0:15	6:34	12:30	19:22						
			0.3	2.6	0.0	2.0					0.5	2.6	0.0	2.0									2.2	0.3	2.5	—0.1						
	M	18	5:24	11:35	18:30	23:50			Th	18	0:25	6:42	12:50	19:50							S	18	1:11	7:36	13:26	20:15						
			0.4	2.5	0.1	1.9					2.0	0.5	2.5	0.1									2.3	0.3	2.4	—0.1						
	Tu	19	6:04	12:20	19:24	24:48			F	19	1:30	7:52	13:48	20:48							D	S	19	2:10	8:42	14:27	21:08					
			0.5	2.5	0.1	2.0					2.0	0.5	2.4	0.1									2.4	0.2	2.3	0.0						
	W	20	0:40	6:56	13:15	20:20			S	20	2:35	9:08	14:50	21:42							E	M	20	3:10	9:45	15:32	22:03					
			1.9	0.6	2.4	0.2					2.1	0.4	2.3	0.0									2.5	0.1	2.2	—0.1						
D	Th	21	1:45	8:12	14:14	21:18			S	21	3:37	10:08	15:57	22:35							Tu	21	4:05	10:47	16:35	22:58						
			1.8	0.6	2.3	0.2					2.3	0.2	2.3	0.0									2.6	0.0	2.1	—0.1						
	F	22	2:56	9:25	15:20	22:15			M	22	4:35	11:06	17:00	23:27							W	22	5:02	11:45	17:36	23:50						
			1.9	0.5	2.3	0.1					2.5	0.1	2.3	—0.1									2.7	—0.1	2.1	—0.1						
	S	23	4:05	10:30	16:24	23:10			Tu	23	5:30	12:05	18:00	24:14						P	Th	23	5:55	12:42	18:35	24:46						
			2.0	0.3	2.3	0.0					2.6	—0.1	2.3	0.0									2.9	—0.2	2.1	0.0						
	S	24	5:03	11:30	17:24	24:48			W	24	0:16	6:18	13:00	19:52							F	24	0:40	6:48	13:35	19:28						
			2.2	0.1	2.4	0.1					—0.2	2.8	—0.3	2.4									—0.2	3.0	—0.3	2.1						
	M	25	0:00	5:56	12:25	18:22			Th	25	1:05	7:08	13:50	19:44							S	25	1:32	7:40	14:24	20:20						
			—0.1	2.5	—0.1	2.6					—0.3	3.0	—0.5	2.4									—0.2	3.1	—0.8	2.2						
E	Tu	26	0:46	6:44	13:16	19:14			F	26	1:52	7:58	14:40	20:32						O	S	26	2:24	8:28	15:12	21:12						
			—0.2	2.7	—0.3	2.6					—0.3	3.2	—0.5	2.4									—0.2	3.1	—0.4	2.2						
	W	27	1:32	7:30	14:05	20:05			S	27	2:40	8:46	15:28	21:24						N	M	27	3:14	9:20	16:00	22:00						
			—0.3	2.9	—0.5	2.6					—0.3	3.3	—0.5	2.3									—0.2	3.1	—0.4	2.2						
	Th	28	2:20	8:18	14:55	20:52			S	28	3:30	9:37	16:20	22:14							Tu	28	4:05	10:08	16:52	22:54						
			—0.4	3.1	—0.6	2.6					—0.2	3.2	—0.5	2.3									—0.1	3.0	—0.4	2.2						
	F	29	3:04	9:06	15:45	21:40			M	29	4:20	10:26	17:10	23:08							W	29	4:58	11:00	17:40	23:45						
			—0.4	3.2	—0.7	2.6					—0.1	3.1	—0.4	2.2									0.0	2.8	—0.3	2.2						
	S	30	3:50	9:55	16:36	22:30			Tu	30	5:15	11:18	18:04	24:06							Th	30	5:50	11:50	18:28	24:46						
			—0.3	3.2	—0.6	2.4					0.0	2.9	—0.4	2.5									0.1	2.6	—0.2	2.1						
S	31	4:38	10:45	17:28	23:22															F	31	0:36	6:46	12:40	19:17							
		—0.2	3.1	—0.5	2.3																	2.2	0.2	2.4	—0.1							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
N	F	1	0:25 0.3	6:36 7.5	13:30 -0.2	19:15 6.7	N	M	1	2:20 0.6	8:18 7.4	15:08 -0.4	21:12 6.7	N	M	1	1:06 0.8	6:55 6.9	13:58 0.0	20:00 6.4									
	S	2	1:35 0.3	7:40 7.7	14:30 -0.5	20:25 6.8		Tu	2	3:24 0.3	9:12 7.5	16:00 -0.6	22:04 6.9		Tu	2	2:15 0.6	8:05 7.1	14:50 -0.2	21:00 6.7									
	S	3	2:38 0.2	8:36 7.8	15:25 -0.7	21:27 7.0		W	3	4:08 0.3	10:00 7.6	16:42 -0.7	22:45 6.9		W	3	3:12 0.4	9:00 7.2	15:38 -0.4	21:46 6.9									
	M	4	3:34 0.1	9:32 7.9	16:15 -0.9	22:15 7.0		Th	4	4:56 0.1	10:50 7.7	17:22 -0.7	23:20 7.0		Th	4	4:00 0.2	9:45 7.3	16:20 -0.5	22:23 7.0									
	Tu	5	4:20 0.1	10:15 8.0	17:00 -1.0	23:00 7.1		○ F	5	5:32 0.1	11:20 7.6	17:57 -0.5	23:50 7.1		○ F	5	4:37 0.1	10:22 7.4	16:58 -0.4	22:52 7.1									
	W	6	5:06 0.1	10:55 7.9	17:43 -0.9	23:38 7.0		S	6	6:05 0.2	11:55 7.5	18:25 -0.3			○ S	6	5:13 -0.1	10:56 7.4	17:24 -0.3	23:15 7.3									
	Th	7	5:48 0.2	11:40 7.8	18:20 -0.7			S	7	6:20 7.2	0:20 7.4	12:30 -0.2	18:53 -0.2		A S	7	5:40 -0.1	11:27 7.4	17:51 -0.3	23:45 7.5									
	F	8	6:20 7.0	6:25 0.3	12:17 7.6	18:55 -0.5		A M	8	6:54 7.3	7:08 0.2	13:07 7.2	19:23 -0.1		M	8	6:02 -0.1	12:00 7.4	18:13 -0.2										
	S	9	6:50 7.0	7:04 0.4	12:58 7.4	19:30 -0.2		E Tu	9	1:30 7.3	7:44 0.3	13:42 7.0	19:57 0.1		E Tu	9	0:18 7.7	6:35 -0.2	12:34 7.3	18:45 -0.1									
	S	10	1:27 7.0	7:40 0.6	13:38 7.1	20:05 0.1		W	10	2:08 7.3	8:23 0.3	14:21 6.9	20:34 0.3		W	10	0:52 7.7	7:10 -0.2	13:10 7.2	19:18 0.0									
A	M	11	2:05 6.9	8:20 0.7	14:20 6.8	20:40 0.3	Th	11	2:48 7.3	9:06 0.4	15:08 6.7	21:13 0.5	Th	11	1:31 7.8	7:48 -0.2	13:48 7.1	19:53 0.1											
	Tu	12	2:46 6.9	9:05 0.8	14:58 6.6	21:18 0.5	F	12	3:38 7.3	9:55 0.4	15:50 6.6	21:59 0.7	F	12	2:11 7.7	8:32 0.0	14:30 7.0	20:37 0.3											
	W	13	3:30 6.9	9:50 0.8	15:42 6.4	22:00 0.7	○ S	13	4:20 7.3	10:48 0.4	16:42 6.5	22:52 0.8	○ S	13	2:57 7.5	9:20 0.1	15:17 6.8	21:24 0.5											
	Th	14	4:16 6.9	10:40 0.8	16:30 6.3	22:46 0.8	S	14	5:17 7.2	11:45 0.4	17:42 6.4	23:52 0.8	○ S	14	3:46 7.4	10:14 0.2	16:12 6.6	22:22 0.7											
	F	15	5:08 7.1	11:32 0.6	17:22 6.2	23:35 0.8	M	15	6:14 7.3	12:47 0.1	18:43 6.5		M	15	4:48 7.2	11:13 0.3	17:13 6.5	23:25 0.8											
	S	16	5:58 7.2	12:28 0.4	18:20 6.4		S Tu	16	6:55 0.6	7:13 7.5	13:47 -0.2	19:46 6.9	S Tu	16	5:45 7.2	12:17 0.2	18:19 6.6												
	S	17	6:30 0.8	6:50 7.4	13:24 0.1	19:15 6.6	W	17	1:58 0.3	8:12 7.8	14:45 -0.5	20:47 7.3	W	17	0:34 0.6	6:48 7.3	13:21 0.0	19:26 7.0											
	M	18	1:25 0.5	7:44 7.7	14:18 -0.3	20:14 6.9	Th	18	2:58 -0.1	9:08 8.1	15:40 -0.9	21:42 7.8	Th	18	1:43 0.3	7:52 7.6	14:23 -0.4	20:27 7.5											
	Tu	19	2:20 0.3	8:38 8.0	15:10 -0.7	21:07 7.3	F	19	3:55 -0.6	10:02 8.5	16:30 -1.8	22:33 8.2	F	19	2:47 -0.2	8:52 8.0	15:18 -0.8	21:21 8.0											
	S	W	20	3:15 -0.1	9:30 8.3	16:00 -1.0	22:00 7.7	● S	20	4:48 -1.0	10:56 8.7	17:17 -1.5	23:24 8.5	S	20	3:43 -0.8	9:46 8.4	16:10 -1.2	22:14 8.5										
P	● Th	21	4:10 -0.4	10:22 8.6	16:50 -1.3	22:50 8.0	P	S	21	5:38 -1.2	11:46 8.8	18:07 -1.6		P	● S	21	4:37 -1.2	10:38 8.6	16:56 -1.4	23:03 8.8									
	F	22	5:00 -0.7	11:10 8.7	17:40 -1.4	23:42 8.2		E M	22	0:12 8.7	6:29 -1.3	12:55 8.6	18:54 -1.4		E M	22	5:37 -1.5	11:28 8.7	17:43 -1.4	23:52 9.0									
	S	23	5:54 -0.8	12:02 8.7	18:26 -1.4			Tu	23	1:02 8.7	7:22 -1.1	13:25 8.3	19:42 -1.1		Tu	23	6:13 -1.6	12:17 8.5	18:30 -1.3										
	S	24	6:32 8.3	6:45 -0.8	12:54 8.5	19:16 -1.3		W	24	1:52 8.5	8:15 -0.9	14:17 7.8	20:32 -0.6		W	24	6:38 8.9	7:02 -1.4	13:06 8.2	19:18 -0.9									
	M	25	1:23 8.3	7:40 -0.7	13:45 8.2	20:05 -1.0		Th	25	2:43 8.2	9:13 -0.5	15:10 7.3	21:28 -0.1		Th	25	1:27 8.6	7:55 -1.0	13:56 7.8	20:07 -0.4									
	Tu	26	2:15 8.2	8:33 -0.5	14:36 7.8	20:56 -0.6		○ F	26	3:37 7.8	10:16 -0.1	16:10 6.8	22:31 0.5		F	26	2:17 8.2	8:53 -0.6	14:50 7.2	21:03 0.1									
	W	27	3:10 8.0	9:35 -0.2	15:32 7.3	21:54 -0.2		S	27	4:37 7.3	11:28 0.2	17:17 6.3	23:45 0.8		S	27	3:10 7.7	9:55 -0.1	15:47 6.6	22:08 0.7									
	Th	28	4:02 7.7	10:44 0.0	16:32 6.9	22:55 0.3		S	28	5:44 7.0	12:45 0.2	18:45 6.2			○ S	28	4:10 7.1	11:02 0.3	16:58 6.2	23:30 1.0									
	F	29	5:06 7.5	11:55 0.1	17:40 6.5										M	29	5:17 6.7	12:20 0.3	18:25 6.1										
	S	30	6:05 0.5	6:12 7.3	13:10 0.0	19:00 6.3									Tu	30	6:52 0.9	6:30 6.6	13:27 0.2	19:35 6.3									
S	31	1:20 0.6	7:17 7.3	14:14 -0.2	20:15 6.5							W	31	1:57 0.7	7:45 6.8	14:25 0.0	20:32 6.6												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.
 ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.													
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								
	W.	Mo.										W.	Mo.										W.	Mo.									
A	Th	1	2:48	8:36	15:12	21:12	0.4	6.9	-0.1	6.8	E	S	1	8:00	8:40	15:07	20:56	0.3	6.6	0.3	7.0	O	Tu	1	3:20	9:05	15:10	21:18	0.0	6.7	0.4	7.8	
	F	2	3:36	9:20	15:52	21:48	0.1	7.0	-0.2	7.0		S	2	8:35	9:18	15:34	21:24	0.1	6.7	0.3	7.4		W	2	3:53	9:46	15:29	22:00	-0.4	7.0	0.1	8.1	
	S	3	4:10	9:55	16:24	22:10	0.0	7.1	-0.2	7.2		M	3	4:02	9:45	15:58	21:57	-0.1	6.9	0.2	7.8		Th	3	4:30	10:28	16:29	22:42	-0.7	7.3	-0.1	8.3	
	S	4	4:40	10:26	16:45	22:36	-0.1	7.2	-0.1	7.5		Tu	4	4:29	10:21	16:26	22:31	-0.4	7.2	0.0	8.0		F	4	5:08	11:08	17:12	23:24	-1.0	7.5	-0.2	8.4	
	M	5	5:04	10:55	17:07	23:07	-0.2	7.3	-0.1	7.8		W	5	4:52	10:55	17:00	23:10	-0.6	7.3	-0.1	8.2		S	5	5:52	11:52	17:57		-1.1	7.6	-0.3		
O	Tu	6	5:31	11:23	17:36	23:43	-0.4	7.4	-0.2	8.0	Th	6	5:35	11:33	17:37	23:50	-0.8	7.4	-0.2	8.3	S	S	6	6:10	12:39	18:43		8.4	-1.0	7.6	-0.2		
	W	7	6:08	12:02	18:08		-0.6	7.4	-0.2			F	7	6:18	12:18	18:17		-0.9	7.5	-0.2			M	7	6:55	12:28	18:30	19:34	8.2	-0.9	7.6	0.0	
	Th	8	6:18	12:02	18:08	18:43	8.1	-0.6	7.4	-0.1		S	8	6:31	12:57	19:00		8.3	-0.8	7.5		-0.1	Tu	8	7:48	13:13	19:22	20:32	8.0	-0.7	7.5	0.1	
	F	9	6:57	12:20	18:20	19:22	8.1	-0.5	7.3	0.0		S	9	7:15	12:42	18:43	19:48	8.1	-0.7	7.4		0.1	W	9	8:40	12:58	19:32	21:32	7.6	-0.4	7.4	0.3	
	S	10	7:40	12:38	18:38	20:08	7.9	-0.4	7.2	0.2		M	10	8:03	13:30	19:36	20:43	7.8	-0.4	7.2		0.4	Th	10	9:38	14:02	20:18	22:40	7.3	-0.2	7.3	0.3	
S	S	11	8:26	13:02	19:02	21:00	7.7	-0.2	7.0	0.5	Tu	11	8:56	13:25	19:34	21:46	7.5	-0.2	7.0	0.5	F	11	10:40	13:06	22:19		7.1	0.0	7.4	0.3			
	M	12	9:18	13:07	19:00	22:00	7.4	0.0	6.8	0.7		W	12	9:56	13:15	19:37	22:51	7.2	0.0	7.0		0.6	S	12	11:47	13:10	23:22		6.9	0.1	7.6		
	Tu	13	10:17	13:22	19:08	23:08	7.2	0.2	6.7	0.7		Th	13	10:50	13:28	19:42		7.0	0.1	7.1			S	13	1:01	13:15	23:15	19:23	6.9	0.1	7.8		
	W	14	11:11	13:28	19:10		7.1	0.2	6.8			F	14	11:46	13:28	19:45		6.4	0.1	7.4			M	14	2:08	13:14	24:18	20:22	-0.3	7.1	0.0	8.1	
	Th	15	12:07	13:27	19:05		6.6	7.1	0.0	7.2		S	15	1:18	13:18	19:40	19:45	6.1	7.2	-0.2		7.8	Tu	15	3:08	13:17	25:10	21:12	-0.7	7.2	-0.2	8.3	
F	F	16	1:32	7:33	14:02	20:06	0.2	7.4	-0.3	7.7	S	S	16	2:23	8:15	14:37	20:40	-0.4	7.4	-0.4	8.3	W	16	4:07	9:52	16:05	22:06	-1.0	7.4	-0.3	8.4		
	S	17	2:35	8:32	14:58	21:02	-0.4	7.8	-0.7	8.2		M	17	3:18	9:10	15:27	21:32	-0.9	7.7	-0.6	8.6		Th	17	5:04	10:42	16:55	22:52	-1.2	7.4	-0.3	8.4	
	S	18	3:32	9:28	15:50	21:53	-0.9	8.1	-1.0	8.7		Tu	18	4:10	10:06	16:17	22:20	-1.3	7.9	-0.8	8.8		F	18	6:02	11:30	17:40	23:37	-1.2	7.4	-0.2	8.3	
	M	19	4:22	10:20	16:38	22:40	-1.3	8.3	-1.2	9.0		W	19	4:57	10:53	17:04	23:07	-1.4	7.9	-0.7	8.8		S	19	6:22	12:15	18:23		-1.0	7.3	0.0		
	Tu	20	5:12	11:10	17:25	23:27	-1.6	8.4	-1.2	9.0		Th	20	5:45	11:40	17:50	23:53	-1.4	7.8	-0.6	8.6		S	20	7:02	12:59	19:13		8.0	-0.8	7.2	0.2	
W	W	21	5:58	11:58	18:08		-1.6	8.2	-1.0		F	21	6:32	12:28	18:37		-1.3	7.6	-0.3		M	21	8:07	13:47	20:00		7.7	-0.5	7.0	0.5			
	Th	22	6:45	12:47	18:55		8.9	-1.4	8.0	-0.7		S	22	7:21	13:18	19:28		8.3	-1.0	7.3		0.1	Tu	22	9:02	14:32	20:50		7.3	-0.1	6.8	0.7	
	F	23	8:15	13:37	19:45		8.5	-1.0	7.5	-0.2		S	23	8:18	14:08	20:22		8.8	-0.5	7.0		0.5	W	23	10:02	15:17	21:42		8.9	0.2	6.6	0.9	
	S	24	9:08	14:30	20:40		8.0	-0.6	7.0	0.4		M	24	9:01	15:03	21:21		7.8	-0.1	6.6		0.8	Th	24	11:03	16:03	22:38		6.5	0.6	6.6	1.1	
	S	25	9:43	15:27	21:45		7.5	-0.1	6.6	0.8		Tu	25	10:01	16:00	22:30		8.12	10:01	16:00		22:30	A	F	25	12:17	16:50	23:30		6.2	0.8	6.6	1.1
M	M	26	10:37	16:32	23:05		6.9	0.3	6.2	1.1	D	W	26	10:57	16:58	23:37		6.5	0.5	6.2	1.1	E	S	26	12:07	17:40			6.0	1.0	6.7		
	Tu	27	11:47	17:50			6.5	0.4	6.1			Th	27	11:58	17:58			6.2	0.7	6.3			S	27	1:02	18:12	23:12		1.0	6.0	1.1	6.9	
	W	28	12:52	19:00			0.9	6.3	0.4	6.3		A	F	28	12:51	18:38			0.9	6.1	0.7		6.5	M	28	2:08	18:58	23:58		1.08	6:48	12:58	19:11
	Th	29	1:27	19:48			0.8	6.4	0.3	6.5		E	S	29	1:34	19:25			0.7	6.1	0.8		6.7	Tu	29	3:07	19:37	24:38		1:54	7:37	13:43	19:57
	F	30	2:20	20:25			0.5	6.5	0.3	6.8		S	30	2:03	17:44	20:00		0.5	6.2	0.8	7.1		W	30	4:07	20:23	25:23		2:37	8:26	14:30	20:43	
A											M	31	2:45	14:36	20:38		0.3	6.5	0.6	7.5													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.							AUGUST.							SEPTEMBER.							
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.						W.	Mo.						W.	Mo.					
O	Th	1	8:20	9:18	15:18	21:31	○	S	1	4:25	10:29	16:37	22:47	P	W	1	5:39	11:46	18:01	24:11	
			—0.4	6.9	0.2	8.1			—1.0	7.8	—0.5	8.5	E			—1.5	8.8	—1.4	9.1		
	F	2	4:01	9:58	16:05	22:17		M	2	5:11	11:16	17:28	23:36	Th	2	0:06	6:25	12:33	18:51		
			—0.7	7.3	—0.1	8.3			—1.3	8.1	—0.8	8.6			8.7	—1.4	8.9	—1.3			
	S	3	4:47	10:47	16:52	23:05	P	Tu	3	6:00	12:06	18:18	24:28	F	3	0:58	7:11	13:21	19:45		
P			—1.0	7.5	—0.3	8.5			—1.4	8.3	—0.9	8.8			8.5	—1.2	8.7	—1.1			
	S	4	5:32	11:35	17:42	23:52	W	4	6:26	12:46	18:55	24:59	S	4	1:49	8:00	14:11	20:38			
			—1.2	7.8	—0.5	8.5			8.6	—1.3	8.4	—0.9			8.1	—0.8	8.4	—0.8			
	M	5	6:18	12:24	18:32	24:44	E	Th	5	1:15	7:35	13:45	20:01	S	5	2:40	8:53	15:05	21:38		
			—1.2	7.9	—0.5	8.5			8.3	—1.1	8.3	—0.7			7.6	—0.8	8.0	—0.8			
E	Tu	6	0:42	7:05	13:14	19:23		F	6	2:04	8:25	14:36	20:59	○	M	6	3:36	9:50	16:02	22:46	
			8.4	—1.2	7.9	—0.4			8.0	—0.8	8.2	—0.5			7.0	0.3	7.6	0.1			
	W	7	1:32	7:54	14:05	20:19		S	7	3:00	9:16	15:31	21:59	Tu	7	4:40	11:02	17:08	23:17		
			8.1	—1.1	7.9	—0.3			7.6	—0.4	7.9	—0.2			6.5	0.7	7.2	0.1			
	Th	8	2:24	8:47	15:00	21:17	○	S	8	3:58	10:15	16:28	23:06	N	W	8	0:05	6:02	12:29	18:20	
C			7.8	—0.6	7.8	—0.1			7.1	0.1	7.7	0.1			0.2	6.2	0.8	6.9			
	F	9	3:20	9:40	15:57	22:20		M	9	5:01	11:20	17:31	23:44	Th	9	1:21	7:26	13:47	19:35		
			7.4	—0.3	7.7	0.1			6.7	0.5	7.4	0.1			0.1	6.3	0.6	7.0			
	S	10	4:19	10:37	16:54	23:30	Tu	10	6:24	12:41	18:52	25:06	F	10	2:25	8:34	14:49	20:41			
			7.1	0.0	7.6	0.1			0.1	6.4	0.7	7.3			—0.2	6.7	0.2	7.3			
N	S	11	5:23	11:43	17:57	24:09	W	11	1:39	7:31	13:51	19:47	S	11	3:19	9:25	15:41	21:30			
			6.9	0.3	7.6	0.1			—0.1	6.4	0.6	7.3			—0.5	6.9	—0.1	7.4			
	M	12	0:38	6:30	12:50	19:00	N	Th	12	2:43	8:45	14:56	20:50	S	12	4:04	10:09	16:25	22:15		
			0.1	6.7	0.4	7.6			—0.4	6.7	0.3	7.5			—0.6	7.2	—0.2	7.5			
	Tu	13	1:54	7:42	13:54	20:02		F	13	3:35	9:43	15:51	21:45	M	13	4:44	10:41	17:02	22:54		
S			—0.2	6.3	0.4	7.7	●			—0.6	6.9	0.1	7.7	●			—0.6	7.3	—0.3	7.5	
	W	14	2:55	8:48	14:58	21:00		S	14	4:23	10:30	16:38	22:28		Tu	14	5:17	11:10	17:34	23:17	
			—0.5	6.8	0.2	7.9				—0.8	7.1	0.0	7.7				—0.5	7.4	—0.3	7.4	
	Th	15	3:46	9:45	15:54	21:51		●	S	15	5:06	11:09	17:21		23:10	W	15	6:41	11:35	17:58	23:50
			—0.8	7.0	0.1	8.0				—0.8	7.2	—0.1	7.7				—0.3	7.6	—0.2	7.4	
●	F	16	4:36	10:36	16:47	22:40		M	16	5:44	11:45	18:01	23:44	E	Th	16	6:06	12:05	18:26	24:11	
			—1.0	7.1	0.0	8.0			—0.7	7.3	—0.2	7.6			—0.2	7.7	—0.2	7.5			
	S	17	5:22	11:21	17:34	23:28	Tu	17	6:19	12:10	18:29	24:34	F	17	0:23	6:31	12:39	18:57			
			—1.0	7.2	—0.1	8.0			—0.6	7.3	0.0	7.7			7.3	—0.1	7.7	—0.2			
	S	18	6:05	12:00	18:12	24:11	W	18	0:20	6:46	12:41	19:01	S	18	0:56	7:04	13:14	19:33			
A			—0.9	7.2	0.0	8.0			7.5	—0.3	7.4	0.0			7.2	0.1	7.7	—0.2			
	M	19	0:04	6:43	12:40	18:53	A	Th	19	0:56	7:13	13:16	19:32	S	19	1:30	7:39	13:52	20:15		
			7.8	—0.7	7.2	0.1			7.3	—0.1	7.4	0.1			7.1	0.2	7.6	0.0			
	Tu	20	0:45	7:22	13:17	19:35		F	20	1:30	7:43	13:52	20:10	M	20	2:11	8:16	14:35	20:59		
			7.6	—0.4	7.1	0.3			7.1	0.1	7.4	0.2			6.9	0.4	7.5	0.1			
D	W	21	1:27	7:55	13:55	20:12		S	21	2:05	8:18	14:30	20:50	Tu	21	2:56	9:01	15:21	21:49		
			7.3	—0.1	7.1	0.5			6.9	0.3	7.3	0.3			6.7	0.6	7.3	0.3			
	Th	22	2:07	8:27	14:34	20:50	●	S	22	2:47	8:56	15:13	21:35	W	22	3:45	9:54	16:15	22:46		
			7.0	0.2	7.0	0.6			6.6	0.6	7.2	0.4			6.6	0.8	7.1	0.4			
	F	23	2:47	9:03	15:17	21:35	D	M	23	3:29	9:38	16:00	22:26	Th	23	4:43	10:56	17:15	23:49		
S			6.7	0.5	6.9	0.7			6.5	0.8	7.1	0.5			6.5	0.9	7.0	0.4			
	S	24	3:30	9:44	16:00	22:23	Tu	24	4:19	10:28	16:51	23:21	F	24	5:46	12:05	18:18	24:11			
			6.4	0.7	6.9	0.8			6.3	0.9	7.1	0.5			6.6	0.8	7.1	0.4			
	S	25	4:12	10:27	16:45	23:18	W	25	5:16	11:25	17:48	23:59	S	25	0:55	6:53	13:13	19:21			
			6.2	0.9	6.9	0.8			6.2	1.0	7.1	0.5			0.2	6.8	0.5	7.4			
P	M	26	5:07	10:14	17:35	24:09	Th	26	0:21	6:16	12:29	18:47	S	26	1:58	7:58	14:16	20:21			
			6.1	1.0	7.0	0.9			0.4	6.4	0.9	7.2			—0.2	7.3	0.0	7.8			
	Tu	27	0:07	5:57	12:08	18:25	S	F	27	1:21	7:20	13:31	19:46	M	27	2:50	8:53	15:15	21:19		
			0.7	6.1	1.0	7.1			0.1	6.6	0.6	7.5			—0.6	7.9	—0.6	8.2			
	W	28	1:03	6:54	13:02	19:20		S	28	2:20	8:20	14:32	20:42	Tu	28	3:41	9:46	16:10	22:11		
S			0.5	6.3	0.8	7.4			—0.2	7.1	0.1	7.9			—1.0	8.4	—1.1	8.5			
	Th	29	1:57	7:50	13:57	20:13	●	S	29	3:15	9:16	15:29	21:38	W	29	4:29	10:36	16:58	23:01		
			0.1	6.5	0.6	7.7			—0.6	7.6	—0.4	8.2			—1.3	8.8	—1.5	8.6			
	F	30	1:48	8:45	14:52	21:05	M	30	4:05	10:09	16:25	22:29	Th	30	5:15	11:24	17:46	23:50			
			—0.3	6.9	0.2	8.0			—1.1	8.1	—0.8	8.6			—1.4	9.1	—1.6	8.6			
S	S	31	3:37	9:37	15:46	21:57	○	Tu	31	4:52	10:58	17:12	23:20								
			—0.7	6.4	—0.2	8.3			—1.4	8.5	—1.2	8.7									

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The time used is Eastern Standard, 75th meridian W. 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
	F	1	6:01 12:10 18:35	...		M	1	1:10 7:18 13:25 20:01	...		W	1	1:46 8:01 13:59 20:40	...
	S	2	0:38 6:49 12:59 19:25	...		Tu	2	2:04 8:15 14:19 21:00	...		Th	2	2:40 9:00 14:51 21:40	...
	S	3	1:29 7:39 13:49 20:20	...		W	3	3:01 9:19 15:15 22:05	...		F	3	3:40 10:10 15:48 22:40	...
	M	4	2:21 8:31 14:41 21:19	...		Th	4	4:06 10:39 16:19 23:19	...		S	4	4:40 11:20 16:50 23:40	...
N	Tu	5	3:19 9:33 15:39 22:26	...		F	5	5:25 11:58 17:36	...		S	5	5:40 12:28 17:55	...
C	W	6	4:25 10:49 16:45 23:45	...		S	6	0:25 6:33 13:04 18:45	...	E	M	6	0:33 6:35 13:20 18:46	...
	Th	7	5:49 12:19 18:05	...		S	7	1:25 7:30 14:00 19:43	...	A	Tu	7	1:21 7:30 14:06 19:39	...
	F	8	0:59 7:10 13:30 19:18	...		M	8	2:15 8:15 14:49 20:34	...		W	8	2:01 7:51 14:45 20:16	...
	S	9	2:00 8:10 14:29 20:20	...		Tu	9	2:55 8:50 15:26 21:15	...		Th	9	2:29 8:28 15:16 20:55	...
	S	10	2:51 9:00 15:18 21:09	...		W	10	3:27 9:19 16:00 21:37	...		F	10	3:00 9:08 15:48 21:33	...
	M	11	3:36 9:37 16:00 21:49	...		Th	11	3:54 9:45 16:26 22:10	...		S	11	3:35 9:44 16:19 22:11	...
	Tu	12	4:10 10:05 16:34 22:19	...		F	12	4:16 10:20 16:51 22:45	...		S	12	4:12 10:24 16:55 22:51	...
E	W	13	4:39 10:31 17:02 22:45	...		S	13	4:45 10:55 17:21 23:20	...		M	13	4:51 11:05 17:34 23:33	...
●	Th	14	5:00 10:55 17:24 23:19	...		S	14	5:20 11:31 18:00 23:56	...	S	Tu	14	5:36 11:49 18:15	...
	F	15	5:23 11:29 17:52 23:50	...		M	15	5:58 12:12 18:39	...		W	15	0:16 6:20 12:35 19:00	...
	S	16	5:55 12:03 18:25	...		Tu	16	0:35 6:40 12:54 19:21	...		Th	16	1:08 7:10 13:21 19:46	...
	S	17	0:24 6:27 12:40 19:03	...		W	17	1:21 7:26 13:40 20:08	...		F	17	1:54 8:03 14:12 20:36	...
	M	18	1:01 7:03 13:20 19:45	...		Th	18	2:11 8:17 14:30 20:57	...		S	18	2:48 9:00 15:07 21:30	...
	Tu	19	1:44 7:46 14:04 20:30	...		F	19	3:04 9:15 15:26 21:53	...	D	S	19	3:44 10:03 16:05 22:27	...
S	W	20	2:30 8:35 14:52 21:20	...		S	20	4:03 10:20 16:26 22:53	...	E	M	20	4:44 11:10 17:06 23:26	...
	Th	21	3:24 9:31 15:48 22:18	...		S	21	5:05 11:29 17:30 23:54	...		Tu	21	5:44 12:18 18:12	...
	F	22	4:22 10:35 16:49 23:19	...		M	22	6:10 12:39 18:37	...		W	22	0:30 6:45 13:26 19:16	...
	S	23	5:29 11:47 17:55	...		Tu	23	0:59 7:10 13:45 19:39	...	P	Th	23	1:31 7:44 14:29 20:17	...
	S	24	0:21 6:34 12:55 19:00	...		W	24	1:56 8:07 14:45 20:38	...		F	24	2:34 8:40 15:25 21:16	...
	M	25	1:25 7:34 14:01 20:00	...		Th	25	2:51 9:01 15:39 21:32	...		S	25	3:28 9:33 16:16 22:20	...
	Tu	26	2:24 8:30 15:01 20:59	...		F	26	3:44 9:50 16:29 22:24	...	O	S	26	4:21 10:26 17:06 23:02	...
E	W	27	3:15 9:23 15:52 21:50	...		S	27	4:32 10:40 17:16 23:15	...	N	M	27	5:14 11:11 17:55 23:51	...
O	Th	28	4:05 10:11 16:42 22:41	...		S	28	5:23 11:30 18:06	...		Tu	28	6:01 12:01 18:41	...
	F	29	4:54 11:00 17:30 23:31	...		M	29	0:05 6:14 12:17 18:57	...		W	29	0:41 6:51 12:50 19:28	...
	S	30	5:39 11:49 18:19	...		Tu	30	0:55 7:05 13:08 19:16	...		Th	30	1:26 7:45 13:35 20:13	...
	S	31	0:20 6:28 12:35 19:10	...				7:5 -0.1 8.1 -0.8	...		F	31	2:15 8:31 14:21 21:01	...

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.								W.	Mo.											
N O	F	1	3:40 4.5	10:15 0.1	16:05 4.0	22:22 -0.2				M	1	5:12 4.7	11:52 -0.1	18:00 3.8	23:52 0.0		N	M	1	3:54 4.2	10:38 0.3	16:54 3.6	22:45 0.3									
	S	2	4:35 4.8	11:12 -0.1	17:08 4.0	23:15 -0.2				N	Tu	2	6:04 4.8	12:42 -0.3	18:50 3.9			Tu	2	4:56 4.3	11:35 0.1	17:51 3.7	23:42 0.2									
	S	3	5:27 4.9	12:04 -0.3	18:05 4.1					W	3	0:42 -0.1	6:50 4.8	13:27 -0.4	19:34 3.9			W	3	5:48 4.4	12:24 -0.1	18:39 3.9										
	M	4	0:06 -0.3	6:15 5.1	12:54 -0.4	18:56 4.1				Th	4	1:27 -0.1	7:32 4.8	14:12 -0.4	20:12 4.0			Th	4	0:30 0.1	6:36 4.5	13:07 -0.2	19:18 4.0									
	Tu	5	0:55 -0.2	7:01 5.1	13:40 -0.5	19:43 4.1				O	F	5	2:09 0.0	8:10 4.8	14:45 -0.4	20:45 4.0			F	5	1:12 0.0	7:15 4.6	13:45 -0.2	19:48 4.1								
	W	6	1:40 -0.2	7:45 5.1	14:26 -0.5	20:27 4.0				S	6	2:47 0.1	8:44 4.7	15:20 -0.3	21:14 4.0			O	S	6	1:51 0.0	7:50 4.6	14:18 -0.2	20:16 4.2								
	Th	7	2:25 0.0	8:27 5.0	15:09 -0.4	21:07 3.9				S	7	3:24 0.2	9:17 4.6	15:55 -0.1	21:42 4.0			A	S	7	2:26 0.0	8:21 4.5	14:47 -0.2	20:40 4.3								
	F	8	3:06 0.2	9:07 4.8	15:50 -0.3	21:46 3.9				A	M	8	3:57 0.4	9:46 4.4	16:26 0.0	22:09 4.1			M	8	3:58 0.1	8:48 4.5	15:15 -0.1	21:08 4.4								
	S	9	3:50 0.4	9:48 4.5	16:30 -0.1	22:20 3.8				E	Tu	9	4:30 0.5	10:15 4.8	16:56 0.2	22:42 4.2			E	Tu	9	3:27 0.1	9:11 4.4	15:41 0.0	21:30 4.5							
	A C	S	10	4:30 0.6	10:20 4.3	17:10 0.1	22:58 3.7				W	10	5:07 0.6	10:47 4.1	17:22 0.4	23:20 4.2			W	10	3:59 0.2	9:40 4.4	16:05 0.2	22:04 4.6								
M		11	5:10 0.8	10:55 4.1	17:49 0.8	23:35 3.7				Th	11	5:50 0.7	11:25 4.0	18:00 0.5			Th	11	4:32 0.3	10:12 4.2	16:32 0.2	22:42 4.6										
Tu		12	5:56 0.9	11:32 3.9	18:26 0.5					F	12	0:06 4.2	6:40 0.8	12:10 3.8	18:40 0.6			F	12	5:10 0.3	10:50 4.1	17:08 0.4	23:27 4.5									
W		13	0:17 8.7	6:47 1.0	12:12 3.8	19:09 0.6				C	S	13	0:59 4.2	7:43 0.8	13:02 3.7	19:30 0.7			C	S	13	6:00 0.5	11:34 3.9	17:53 0.5								
Th		14	1:02 3.8	7:44 1.0	13:00 3.6	19:52 0.7				S	14	2:00 4.2	8:55 0.7	14:05 3.6	20:44 0.7			C	S	14	0:19 4.4	6:59 0.6	12:29 3.8	18:50 0.7								
F		15	1:56 4.0	8:45 0.9	13:58 3.5	20:40 0.6				M	15	3:07 4.3	10:04 0.5	15:20 3.6	21:56 0.6			M	15	1:19 4.3	8:17 0.7	13:34 3.6	20:05 0.8									
S		16	2:52 4.1	9:44 0.7	14:51 3.5	21:33 0.6				S	Tu	16	4:13 4.5	11:05 0.2	16:39 3.7	23:02 0.3			S	Tu	16	2:28 4.2	9:32 0.5	14:54 3.6	21:32 0.7							
S		17	3:48 4.4	10:39 0.5	15:55 3.6	22:28 0.4				W	17	5:14 4.7	11:59 -0.2	17:48 4.0			W	17	3:42 4.3	10:38 0.2	16:22 3.8	22:47 0.3										
M		18	4:42 4.6	11:32 0.2	16:59 3.8	23:19 0.2				Th	18	0:00 0.0	6:08 5.0	12:49 -0.5	18:40 4.4			Th	18	4:51 4.6	11:33 -0.2	17:30 4.2	23:48 -0.1									
S P		Tu	19	5:32 4.9	12:20 -0.2	17:54 4.0				F	19	0:55 -0.3	7:01 5.3	13:35 -0.8	19:30 4.7			F	19	5:51 4.9	12:25 -0.6	18:24 4.6										
	W	20	0:11 0.0	6:25 5.1	13:08 -0.5	18:48 4.2			P	S	20	1:44 -0.5	7:49 5.5	14:22 -1.0	20:19 4.9			S	20	0:42 -0.5	6:45 5.2	13:12 -0.9	19:14 5.0									
	Th	21	1:01 -0.1	7:12 5.3	13:55 -0.7	19:40 4.4				S	21	2:35 -0.7	8:38 5.5	15:08 -1.1	21:05 5.1			P	S	21	1:32 -0.8	7:34 5.4	14:00 -1.1	20:00 5.3								
	F	22	1:58 -0.3	8:00 5.4	14:42 -0.8	20:30 4.6				E	M	22	3:24 -0.7	9:25 5.4	15:56 -1.0	21:54 5.1			E	M	22	2:21 -0.9	8:22 5.4	14:45 -1.1	20:45 5.4							
	S	23	2:45 -0.8	8:49 5.4	15:30 -0.9	21:20 4.7				Tu	23	4:16 -0.6	10:12 5.1	16:41 -0.8	22:43 5.0			Tu	23	3:10 -1.0	9:08 5.3	15:29 -1.0	21:32 5.4									
	S	24	3:35 -0.3	9:38 5.2	16:18 -0.8	22:12 4.7				W	24	5:09 -0.4	11:04 4.8	17:31 -0.4	23:35 4.8			W	24	4:00 -0.9	9:55 5.0	16:15 -0.7	22:20 5.2									
	M	25	4:30 -0.2	10:38 5.0	17:08 -0.7	23:07 4.6				Th	25	6:07 -0.1	11:58 4.3	18:26 -0.1			Th	25	4:50 -0.6	10:45 4.6	17:05 -0.3	23:10 4.9										
	Tu	26	5:28 -0.1	11:22 4.7	18:00 -0.4					C	F	26	0:33 4.6	7:10 0.1	13:02 3.9	19:29 0.2			F	26	5:45 -0.3	11:38 4.2	17:58 0.1									
	D	W	27	0:08 4.5	6:30 0.1	12:20 4.4	18:56 -0.2				S	27	1:40 4.4	8:22 0.3	14:18 3.6	20:35 0.4			S	27	0:04 4.6	6:46 0.0	12:42 3.8	19:00 0.4								
		Th	28	1:05 4.4	7:37 0.2	13:22 4.1	19:56 0.0				S	28	2:46 4.2	9:32 0.3	15:40 3.5	21:42 0.4			D	S	28	1:05 4.3	7:53 0.3	14:00 3.5	20:11 0.6							
F		29	2:10 4.4	8:48 0.3	14:38 3.8	20:59 0.1												M	29	2:15 4.1	9:05 0.4	15:23 3.4	21:20 0.7									
S		30	3:15 4.4	9:56 0.2	15:52 3.7	22:00 0.1												Tu	30	3:27 4.0	10:12 0.4	16:35 3.5	22:28 0.5									
S		31	4:16 4.5	10:58 0.1	17:01 3.7	23:00 0.1												W	31	4:32 4.0	11:09 0.3	17:30 3.6	23:24 0.4									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.
 ●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.							W.	Mo.												
A	Th	1	5:28	11:56	18:12					S	1	5:37	11:56	18:03					Tu	1	0:24	6:02	12:15	18:22								
			4.1	0.1	3.8							3.8	0.2	4.0							0.3	3.6	0.3	4.5								
	F	2	0:12	6:13	12:37	18:47				E	S	2	0:24	6:16	12:30	18:34			W	2	1:02	6:31	12:50	18:56								
			0.2	4.2	0.0	4.0							0.3	3.9	0.2	4.2					0.1	3.8	0.3	4.8								
	S	3	0:52	6:52	13:12	19:15				M	3	1:00	6:49	13:01	19:02			Th	3	1:40	7:12	13:25	19:33									
B			0.4	4.3	—0.1	4.2						0.2	4.0	0.1	4.7					—0.1	3.9	0.2	4.9									
	S	4	1:28	7:23	13:42	19:40				Tu	4	1:32	7:12	13:31	19:30			F	4	2:20	7:51	14:00	20:12									
			0.0	4.3	—0.1	4.3						0.0	4.0	0.1	4.7					—0.2	4.0	0.2	5.0									
	M	5	2:01	7:53	14:10	20:04				W	5	2:06	7:45	13:57	20:00			S	5	3:00	8:35	14:40	20:55									
			0.0	4.4	—0.1	4.5						—0.1	4.1	0.1	4.9					—0.3	4.1	0.2	5.1									
C	Tu	6	2:32	8:17	14:35	20:30				Th	6	2:40	8:15	14:25	20:35			S	6	3:43	9:17	15:25	21:40									
			0.0	4.3	0.0	4.7						—0.2	4.2	0.1	5.0					—0.3	4.2	0.2	5.0									
	W	7	3:02	8:40	15:00	21:00				F	7	3:15	8:47	14:58	21:12			M	7	4:28	10:06	16:16	22:26									
			0.0	4.3	0.1	4.8						—0.2	4.2	0.2	5.0					—0.3	4.2	0.3	4.9									
	Th	8	3:33	9:10	15:26	21:33				S	8	3:55	9:28	15:35	21:52			Tu	8	5:18	11:00	17:13	23:17									
D			0.0	4.3	0.1	4.9						—0.2	4.2	0.2	4.9					—0.2	4.2	0.4	4.7									
	F	9	4:10	9:46	15:57	22:14				S	S	9	4:40	10:12	16:20	22:38			W	9	6:11	11:58	18:17									
			0.0	4.3	0.2	4.8						—0.1	4.2	0.4	4.8					—0.2	4.1	0.5										
	S	10	4:50	10:27	16:35	22:58				M	10	5:28	11:03	17:12	23:30			Th	10	0:13	7:07	13:01	19:29									
			0.1	4.2	0.4	4.7						0.0	4.1	0.5	4.6					4.5	—0.1	4.1	0.5									
E	S	11	5:38	11:15	17:24	23:48				Tu	11	6:24	12:00	18:17			F	11	1:16	8:06	14:10	20:41										
			0.2	4.0	0.5	4.5						0.1	3.9	0.7					4.3	0.0	4.2	0.4										
	M	12	6:37	12:10	18:24				W	12	0:27	7:27	13:10	19:37			S	12	2:25	9:08	15:17	21:50										
			0.4	3.8	0.7							4.4	0.2	3.9	0.7					4.1	0.0	4.4	0.3									
	Th	13	0:48	7:46	13:17	19:43				Th	13	1:35	8:33	14:28	21:00			S	13	3:35	10:07	16:18	22:52									
F			4.3	0.5	3.7	0.8						4.2	0.2	3.9	0.6					4.1	—0.1	4.6	0.0									
	W	14	1:55	9:00	14:40	21:17				F	14	2:50	9:37	15:42	22:13			M	14	4:42	11:01	17:15	23:50									
			4.2	0.4	3.7	0.7						4.2	0.1	4.2	0.3					4.1	—0.2	4.9	—0.3									
	Th	15	3:16	10:08	16:04	22:32				S	15	4:04	10:35	16:45	23:13			Tu	15	5:44	11:56	18:07										
			4.2	0.2	3.9	0.3						4.3	—0.2	4.6	0.0					4.2	—0.4	5.1										
G	F	16	4:28	11:06	17:10	23:33				S	16	5:08	11:30	17:39			W	16	0:44	6:42	12:48	18:56										
			4.4	—0.2	4.4	—0.1						4.4	—0.4	4.9					—0.5	4.3	—0.4	5.3										
	S	17	5:31	11:58	18:03				M	17	0:09	6:04	12:22	18:30			Th	17	1:35	7:35	13:38	19:45										
			4.7	—0.5	4.8							—0.4	4.6	—0.6	5.3					—0.7	4.3	—0.4	5.3									
	S	18	0:27	6:25	12:47	18:53			Tu	18	1:01	6:57	13:10	19:18			N	F	18	2:24	8:27	14:27	20:33									
H			—0.5	5.0	—0.8	5.2						—0.7	4.7	—0.7	5.5					—0.7	4.3	—0.3	5.3									
	M	19	1:16	7:16	13:35	19:40			W	19	1:56	7:49	13:56	20:04			S	19	3:14	9:15	15:16	21:19										
			—0.8	5.1	—1.0	5.5						—0.9	4.7	—0.7	5.5					—0.7	4.2	0.1	5.1									
	Tu	20	2:05	8:05	14:20	20:25			Th	20	2:38	8:38	14:45	20:50			S	20	4:00	10:04	16:05	22:05										
			—1.0	5.1	—1.0	5.6						—1.0	4.6	—0.6	5.5					—0.6	4.1	0.1	4.9									
I	W	21	2:54	8:52	15:05	21:10			F	21	3:27	9:27	15:34	21:37			M	21	4:47	10:51	16:54	22:48										
			—1.1	5.0	—0.8	5.5						—0.9	4.5	—0.3	5.2					—0.5	4.0	0.3	4.6									
	Th	22	3:42	9:40	15:52	21:57			N	S	22	4:18	10:18	16:25	22:23			Tu	22	5:32	11:37	17:43	23:32									
			—1.0	4.8	—0.5	5.3						—0.7	4.2	0.0	4.9					—0.3	3.8	0.5	4.3									
	F	23	4:32	10:28	16:40	22:45				S	23	5:08	11:10	17:15	23:12			W	23	6:20	12:22	18:35										
J			—0.7	4.4	—0.2	5.0						—0.5	4.0	0.3	4.6					0.0	3.7	0.7										
	S	24	5:26	11:22	17:35	23:37			M	24	6:00	12:05	18:10			Th	24	0:14	7:05	13:10	19:28											
			—0.4	4.1	0.2	4.6						—0.2	3.7	0.6					4.0	0.2	3.6	0.9										
	S	25	6:23	12:25	18:35				Tu	25	0:02	6:54	13:04	19:12			F	25	0:58	7:50	13:52	20:24										
			—0.1	3.7	0.6							4.2	0.1	3.5	0.8					3.7	0.4	3.6	1.0									
K	M	26	0:35	7:26	13:36	19:44			W	26	0:59	7:50	14:05	20:17			S	26	1:42	8:35	14:37	21:17										
			4.2	0.2	3.5	0.8						3.9	0.3	3.5	0.9					3.5	0.6	3.7	1.0									
	Tu	27	1:39	8:31	14:50	20:55			Th	27	2:00	8:45	15:00	21:18			S	27	2:29	9:18	15:28	22:10										
			3.9	0.4	3.4	0.8						3.7	0.4	3.5	0.9					3.4	0.6	3.9	0.9									
	W	28	2:47	9:32	15:58	22:00			A	F	28	3:00	9:34	15:50	22:14			M	28	3:20	10:00	16:10	23:00									
L			3.8	0.4	3.5	0.7						3.5	0.5	3.6	0.8					3.3	0.7	4.1	0.7									
	Th	29	3:54	10:28	16:50	22:55			E	S	29	3:55	10:21	16:32	23:08			Tu	29	4:15	10:45	16:56	23:45									
			3.8	0.4	3.6	0.5						3.5	0.5	3.3	0.7					3.3	0.6	4.3	0.5									
	F	30	4:50	11:15	17:29	23:43			S	30	4:45	11:02	17:10	23:15			W	30	5:05	11:29	17:40											
			3.8	0.3	3.8	0.5						3.5	0.5	4.0	0.5					3.5	0.5	4.5										
M									M	31	5:25	11:40	17:45																			
												3.5	0.4	4.3																		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
αO	Th	1	0:38 0.2	5:54 3.6	12:12 0.4	18:25 4.8	○	S	1	1:37 -0.4	7:20 4.1	13:34 -0.1	19:40 5.1	P	W	1	2:44 -0.9	8:41 5.0	15:00 -0.6	21:01 5.3
	F	2	1:14 0.0	6:47 3.8	13:00 0.2	19:11 4.9		M	2	2:24 -0.6	8:11 4.4	14:25 -0.2	20:30 5.2	E	Th	2	3:30 -0.9	9:30 5.1	15:53 -0.6	21:50 5.1
	S	3	2:00 -0.8	7:33 4.0	13:45 0.1	19:57 5.1	P	Tu	3	3:08 -0.8	9:00 4.6	15:17 -0.3	21:18 5.2		F	3	4:17 -0.7	10:20 5.1	16:46 -0.5	22:40 4.9
	S	4	2:45 -0.4	8:22 4.2	14:34 0.1	20:43 5.2		W	4	3:56 -0.8	9:50 4.7	16:08 -0.4	22:08 5.1		S	4	5:05 -0.6	11:10 5.0	17:42 -0.3	23:32 4.5
	M	5	3:30 -0.5	9:12 4.3	15:23 0.0	21:30 5.1	E	Th	5	4:43 -0.7	10:40 4.8	17:02 -0.2	22:58 4.9		S	5	5:59 -0.2	12:05 4.8	18:41 -0.1	
P	Tu	6	4:17 -0.6	10:02 4.4	16:15 0.1	22:20 5.0		F	6	5:31 -0.6	11:34 4.7	17:57 -0.1	23:48 4.6	☾	M	6	6:31 4.1	6:56 0.0	13:05 4.6	19:45 0.1
	W	7	5:05 -0.5	10:55 4.4	17:11 0.1	23:09 4.8		S	7	6:22 -0.4	12:27 4.7	18:59 0.1			Tu	7	1:39 3.8	7:58 0.3	14:08 4.4	20:53 0.2
	Th	8	5:58 -0.4	11:55 4.4	18:11 0.2		☾	S	8	7:16 4.3	7:16 -0.1	13:26 4.6	20:02 0.2	N	W	8	2:55 3.6	9:05 0.4	15:15 4.3	22:00 0.2
	F	9	6:52 4.6	12:45 -0.3	14:44 4.4	19:15 0.8		M	9	8:16 4.0	8:16 0.1	14:28 4.5	21:10 0.2		Th	9	4:09 3.6	10:10 0.3	16:20 4.3	23:00 0.1
	S	10	7:40 4.3	13:34 -0.1	15:44 4.4	20:22 0.3		Tu	10	9:17 3.7	9:17 0.2	15:32 4.5	22:17 0.2		F	10	5:05 3.7	11:10 0.2	17:18 4.4	23:55 0.0
E	S	11	8:39 4.1	14:30 0.0	16:52 4.5	21:28 0.2		W	11	10:22 3.6	10:22 0.2	16:35 4.5	23:19 0.1		S	11	6:03 3.8	12:04 0.1	18:10 4.5	
	M	12	9:40 3.9	15:40 0.0	18:53 4.6	22:33 0.1	N	Th	12	11:22 3.7	11:22 0.1	17:33 4.6			S	12	6:42 -0.1	6:53 4.0	12:52 0.0	18:55 4.5
	Tu	13	10:38 3.8	16:38 0.0	19:53 4.7	23:34 -0.1		F	13	12:17 -0.1	12:17 3.8	18:26 0.0	18:26 4.7		M	13	7:24 -0.2	7:30 4.1	13:35 0.0	19:35 4.5
	W	14	11:36 3.8	17:36 -0.1				S	14	1:05 -0.2	7:13 3.9	13:09 -0.1	19:15 4.8	●	Tu	14	8:02 -0.2	8:02 4.2	14:15 0.0	20:11 4.5
	Th	15	12:31 -0.3	18:31 3.9	20:16 -0.1	23:41 5.0	●	S	15	1:50 -0.4	7:58 4.0	13:55 -0.1	19:58 4.8		W	15	8:32 -0.2	8:32 4.2	14:50 0.1	20:43 4.4
N	F	16	1:20 -0.4	7:25 4.0	13:22 -0.2	19:30 5.0		M	16	2:32 -0.4	8:38 4.1	14:38 0.0	20:38 4.7	E	Th	16	9:07 0.0	9:00 4.3	15:25 0.2	21:11 4.2
	S	17	2:10 -0.5	8:15 4.1	14:12 -0.2	20:16 5.0		Tu	17	3:11 -0.3	9:11 4.1	15:20 0.1	21:16 4.6		F	17	9:35 0.1	9:27 4.4	15:59 0.2	21:35 4.1
	S	18	2:56 -0.6	9:00 4.1	14:59 -0.1	21:00 4.9		W	18	3:48 -0.2	9:44 4.1	15:58 0.2	21:50 4.4		S	18	10:00 0.3	9:57 4.4	16:34 0.3	22:05 4.0
	M	19	3:39 -0.5	9:42 4.1	15:45 0.1	21:42 4.7	A	Th	19	4:22 -0.1	10:12 4.1	16:35 0.4	22:18 4.2		S	19	10:28 0.4	10:33 4.5	17:11 0.4	22:41 4.0
	Tu	20	4:20 -0.4	10:23 4.0	16:28 0.2	22:22 4.5	E	F	20	4:53 0.1	10:43 4.2	17:12 0.5	22:48 4.1		M	20	11:00 0.5	11:14 4.5	17:54 0.5	23:21 3.8
A	W	21	5:00 -0.2	11:00 4.0	17:10 0.5	22:59 4.3		S	21	5:21 0.3	11:16 4.2	17:51 0.6	23:18 3.9		Tu	21	11:40 0.6	12:01 4.4	18:46 0.6	
	Th	22	5:40 0.0	11:35 3.9	17:53 0.6	23:31 4.1		S	22	6:52 0.5	11:55 4.2	18:32 0.7	23:55 3.8	☽	W	22	6:12 0.7	6:30 3.7	12:55 0.7	19:50 4.3
	F	23	6:18 0.2	12:08 3.9	18:36 0.8		☽	M	23	6:25 0.6	12:40 4.2	19:23 0.8			Th	23	7:10 0.7	7:35 3.8	13:57 0.8	20:57 4.3
	S	24	6:58 0.3	12:47 3.9	19:22 0.9			Tu	24	6:40 0.7	7:10 4.2	13:31 0.8	20:25 0.8		F	24	7:20 0.7	7:52 3.8	15:05 0.7	22:00 4.3
	S	25	7:38 0.3	13:28 3.7	19:53 0.9			W	25	7:15 0.6	8:06 4.3	14:31 0.7	21:29 0.7		S	25	8:06 0.8	10:08 4.5	16:12 0.5	23:00 4.0
D	M	26	8:22 0.5	14:20 3.5	20:12 0.9			Th	26	8:38 0.5	9:12 4.3	15:35 0.5	22:31 0.5		S	26	8:47 0.1	11:12 4.1	17:18 0.7	23:52 4.7
	Tu	27	9:13 0.5	15:15 3.5	21:12 0.7		s	F	27	9:32 0.6	10:22 4.5	16:37 0.5	23:28 0.2		M	27	9:48 0.5	12:10 4.5	18:10 0.5	
	W	28	10:08 0.4	16:11 3.4	22:12 0.5			S	28	10:08 0.8	11:28 4.7	17:36 0.5			Tu	28	10:41 -0.6	13:40 4.8	19:02 -0.5	19:02 5.1
	Th	29	10:59 0.5	17:07 3.5	23:59 0.2			S	29	10:21 -0.2	11:06 4.1	17:27 0.0	18:32 5.0	○	W	29	11:28 -0.8	13:50 5.2	19:54 -0.8	19:53 5.2
	F	30	11:54 0.6	18:00 3.6				M	30	11:10 -0.5	7:01 4.4	13:20 -0.3	19:24 5.2	P	Th	30	12:15 -0.9	8:17 5.3	14:44 -0.9	20:41 5.2
	S	31	12:48 -0.1	19:01 3.9	23:52 0.1		○	Tu	31	11:57 -0.7	7:58 4.8	14:10 -0.5	20:14 5.3							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.
●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.							W.		Mo.							W.	Mo.													
N	F	1	3:02	9:06	15:34	21:30	—0.9	5.4	—0.8	5.0	N	M	1	4:18	10:22	17:05	23:04	—0.2	5.1	—0.5	4.1	W	1	4:52	10:52	17:40	23:50	0.2	4.7	—0.3	3.8	
	S	2	3:50	9:55	16:27	22:22	—0.7	5.3	—0.7	4.7		Tu	2	5:15	11:18	18:04	23:59	0.1	4.8	—0.3	3.9		Th	2	5:58	11:52	18:37	24:30	0.4	4.4	—0.1	3.9
	S	3	4:40	10:46	17:23	23:19	—0.4	5.1	—0.5	4.3		W	3	0:11	6:18	12:17	19:05	0:11	6:18	12:17	19:05		F	3	0:52	6:59	12:50	19:34	0:52	6:59	12:50	19:34
	M	4	5:35	11:42	18:22	24:11	0.0	4.8	—0.2	4.0		Th	4	1:20	7:26	13:24	20:08	1:20	7:26	13:24	20:08		S	4	1:55	8:08	13:50	20:30	1:55	8:08	13:50	20:30
	Tu	5	0:21	6:37	12:41	19:28	4.0	0.2	4.5	0.0		F	5	2:30	8:38	14:32	21:09	2:30	8:38	14:32	21:09		S	5	2:50	9:05	14:53	21:20	2:50	9:05	14:53	21:20
	W	6	1:33	7:43	13:48	20:35	3.7	0.4	4.3	0.1		S	6	3:32	9:37	15:33	22:02	3:32	9:37	15:33	22:02		M	6	3:41	10:01	15:47	22:08	3:41	10:01	15:47	22:08
	Th	7	2:48	8:52	14:56	21:38	3.6	0.5	4.2	0.2		S	7	4:26	10:32	16:28	22:50	4:26	10:32	16:28	22:50		Tu	7	4:24	10:50	16:35	22:50	4:24	10:50	16:35	22:50
	F	8	4:00	9:58	16:02	22:36	3.7	0.4	4.2	0.1		M	8	5:08	11:22	17:17	23:23	5:08	11:22	17:17	23:23		W	8	5:00	11:33	17:15	23:25	5:00	11:33	17:15	23:25
	S	9	4:57	10:55	16:57	23:28	3.8	0.3	4.2	0.0		Tu	9	5:48	12:05	17:56	24:11	5:48	12:05	17:56	24:11		Th	9	5:35	12:11	17:52	24:11	5:35	12:11	17:52	24:11
	S	10	5:43	11:46	17:46	24:11	3.9	0.2	4.2	0.0		W	10	0:09	6:15	12:42	18:31	0:09	6:15	12:42	18:31		F	10	0:00	6:05	12:46	18:20	0:00	6:05	12:46	18:20
	M	11	0:10	6:21	12:31	18:30	0.0	4.1	0.1	4.2		Th	11	0:41	6:43	13:16	19:00	0:41	6:43	13:16	19:00		S	11	0:31	6:40	13:23	18:50	0:31	6:40	13:23	18:50
	Tu	12	0:49	6:55	13:10	19:05	—0.1	4.2	0.1	4.2		F	12	1:11	7:12	13:50	19:25	1:11	7:12	13:50	19:25		S	12	1:02	7:12	14:01	19:25	1:02	7:12	14:01	19:25
E	W	13	1:23	7:24	13:46	19:38	—0.1	4.3	0.1	4.2	E	S	13	1:38	7:40	14:25	19:52	1:38	7:40	14:25	19:52		M	13	1:38	7:49	14:40	20:05	1:38	7:49	14:40	20:05
	Th	14	1:53	7:50	14:19	20:05	0.0	4.4	0.1	4.1		S	14	2:02	8:13	15:00	20:25	2:02	8:13	15:00	20:25		Tu	14	2:12	8:23	15:20	20:48	2:12	8:23	15:20	20:48
	F	15	2:20	8:17	14:55	20:28	0.1	4.5	0.1	4.1		M	15	2:32	8:49	15:38	21:05	2:32	8:49	15:38	21:05		W	15	2:55	9:12	16:05	21:37	2:55	9:12	16:05	21:37
	S	16	2:46	8:47	15:26	20:56	0.3	4.6	0.1	4.0		Tu	16	3:11	9:30	16:21	21:50	3:11	9:30	16:21	21:50		Th	16	3:45	9:58	16:52	22:29	3:45	9:58	16:52	22:29
	S	17	3:11	9:20	16:02	21:30	0.4	4.7	0.2	4.0		W	17	3:55	10:15	17:10	22:40	3:55	10:15	17:10	22:40		F	17	4:42	10:49	17:44	23:28	4:42	10:49	17:44	23:28
	M	18	3:42	9:57	16:42	22:11	0.5	4.6	0.2	3.9		Th	18	4:48	11:06	18:05	23:40	4:48	11:06	18:05	23:40		S	18	5:45	11:44	18:40	24:11	5:45	11:44	18:40	24:11
	Tu	19	4:20	10:40	17:28	22:58	0.6	4.6	0.3	3.9		F	19	5:52	12:02	19:05	24:30	5:52	12:02	19:05	24:30		S	19	0:38	7:00	12:45	19:38	0:38	7:00	12:45	19:38
	W	20	5:05	11:30	18:22	23:51	0.7	4.5	0.4	3.8		S	20	0:47	7:10	13:07	20:05	0:47	7:10	13:07	20:05		M	20	1:40	8:11	13:52	20:38	1:40	8:11	13:52	20:38
	Th	21	6:03	12:26	19:26	24:41	0.8	4.3	0.4	3.8		S	21	2:00	8:30	14:16	21:04	2:00	8:30	14:16	21:04		Tu	21	2:46	9:20	15:00	21:35	2:46	9:20	15:00	21:35
	F	22	0:57	7:18	13:30	20:32	3.7	0.8	4.2	0.3		M	22	3:09	9:40	15:27	22:02	3:09	9:40	15:27	22:02		W	22	3:48	10:23	16:16	22:31	3:48	10:23	16:16	22:31
	S	23	2:10	8:42	14:40	21:33	3.8	0.7	4.2	0.1		Tu	23	4:10	10:40	16:30	22:55	4:10	10:40	16:30	22:55		Th	23	4:45	11:20	17:10	23:26	4:45	11:20	17:10	23:26
P	S	24	3:27	9:55	15:50	22:30	4.0	0.4	4.4	—0.1	P	W	24	5:05	11:35	17:26	23:47	5:05	11:35	17:26	23:47		F	24	5:37	12:14	18:08	24:11	5:37	12:14	18:08	24:11
	M	25	4:31	10:58	16:52	23:22	4.4	0.0	4.6	—0.4		Th	25	5:55	12:27	18:20	24:30	5:55	12:27	18:20	24:30		S	25	0:17	6:28	13:06	19:00	0:17	6:28	13:06	19:00
	Tu	26	5:26	11:52	17:48	24:11	4.8	—0.4	4.8	—0.4		F	26	0:36	6:45	13:20	19:13	—0.7	5.5	—0.9	4.7		S	26	1:06	7:11	13:56	19:54	1:06	7:11	13:56	19:54
	W	27	0:12	6:17	12:45	18:40	—0.7	5.2	—0.7	5.0		S	27	1:25	7:33	14:09	20:04	—0.7	5.6	—0.9	4.6		M	27	1:59	8:05	14:45	20:45	1:59	8:05	14:45	20:45
	Th	28	1:00	7:05	13:35	19:30	—0.8	5.4	—0.9	5.0		S	28	2:12	8:20	15:00	20:56	—0.5	5.5	—0.9	4.5		Tu	28	2:48	8:53	15:34	21:37	2:48	8:53	15:34	21:37
	F	29	1:47	7:54	14:25	20:20	—0.8	5.6	—1.0	4.9		M	29	3:04	9:10	15:52	21:50	—0.4	5.3	—0.8	4.3		W	29	3:40	9:40	16:23	22:26	3:40	9:40	16:23	22:26
	S	30	2:36	8:42	15:16	21:11	—0.7	5.6	—0.9	4.7		Tu	30	3:57	10:00	16:45	22:48	—0.1	5.0	—0.6	4.0		Th	30	4:30	10:30	17:12	23:18	4:30	10:30	17:12	23:18
	S	31	3:25	9:32	16:10	22:05	—0.5	5.4	—0.8	4.4											F	31	5:25	11:17	18:00	24:11	5:25	11:17	18:00	24:11		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian, West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st. quar.; ○, full moon; ☾, 3d. quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	3:08 4.8	9:34 0.3	15:40 4.2	21:44 0.0	N O	M	1	4:38 4.8	11:13 0.3	17:25 4.0	23:17 0.3	N O	M	1	3:16 4.4	9:51 0.5	16:10 3.7	22:01 0.6												
	S	2	4:05 4.9	10:35 0.2	16:40 4.2	22:40 0.0		Tu	2	5:32 4.9	12:06 0.2	18:19 4.0	23:00 0.5		Tu	2	4:17 4.5	10:52 0.4	17:10 3.8	23:00 0.5												
	S	3	5:00 5.1	11:30 0.0	17:38 4.2	23:32 0.0		W	3	6:08 0.2	6:20 5.0	12:52 0.0	19:05 4.1		W	3	5:12 4.6	11:44 0.3	18:00 4.0	23:53 0.4												
	M	4	5:50 5.2	12:22 -0.1	18:32 4.2			Th	4	6:56 0.2	7:05 5.0	13:34 -0.1	19:47 4.2		Th	4	6:00 4.7	12:28 0.1	18:43 4.1													
	Tu	5	0:22 0.0	6:38 5.3	13:10 -0.2	19:20 4.2		F	5	1:38 0.2	7:46 5.0	14:12 -0.1	20:25 4.2		F	5	0:37 0.3	6:44 4.8	13:06 0.0	19:20 4.3												
	W	6	1:10 0.0	7:22 5.3	13:55 -0.2	20:05 4.2		S	6	2:18 0.8	8:25 4.9	14:47 -0.1	20:59 4.2		S	6	1:19 0.8	7:24 4.7	13:42 0.0	19:53 4.4												
	Th	7	1:55 0.1	8:05 5.2	14:35 -0.2	20:48 4.2		S	7	2:52 0.5	9:00 4.7	15:20 0.0	21:30 4.2		S	7	1:54 0.2	7:59 4.7	14:13 0.0	20:23 4.5												
	F	8	2:38 0.3	8:48 5.0	15:15 -0.1	21:28 4.1		M	8	3:25 0.5	9:34 4.5	15:52 0.1	22:00 4.2		M	8	2:25 0.3	8:32 4.6	14:44 0.1	20:52 4.5												
	S	9	3:18 0.5	9:28 4.8	15:54 0.0	22:05 4.0		Tu	9	3:59 0.6	10:13 4.2	16:22 0.3	22:34 4.3		Tu	9	2:58 0.3	9:04 4.4	15:12 0.2	21:22 4.6												
	S	10	3:54 0.7	10:05 4.5	16:30 0.1	22:42 4.0		W	10	4:34 0.6	10:38 4.1	16:53 0.5	23:12 4.3		W	10	3:31 0.3	9:34 4.3	15:40 0.3	21:56 4.5												
A	M	11	4:30 0.9	10:44 4.8	17:08 0.3	23:20 3.9	Th	11	5:16 0.7	11:15 3.9	17:27 0.6	23:56 4.2	Th	11	4:06 0.4	10:15 4.1	16:10 0.4	22:32 4.5														
Tu	12	5:12 1.0	11:20 4.0	17:43 0.5		F	12	6:05 0.8	11:58 3.8	18:10 0.7		F	12	4:47 0.4	10:40 4.0	16:44 0.5	23:17 4.4															
E	W	13	0:00 4.0	5:58 1.0	11:58 3.8	18:22 0.6	S	13	0:46 4.2	7:02 0.8	12:50 3.6	19:02 4.3	S	13	5:35 0.5	11:25 3.8	17:28 0.7															
C	Th	14	0:46 4.0	6:50 1.0	12:45 3.7	19:07 0.7	S	14	1:45 4.3	8:07 0.7	13:58 3.6	20:05 4.3	S	14	0:09 4.3	6:32 0.6	12:21 3.7	18:25 0.8														
F	15	1:35 4.1	7:46 0.9	13:38 3.6	19:55 0.7	M	15	2:48 4.4	9:15 0.6	15:13 3.7	21:17 0.6	M	15	1:12 4.8	7:37 0.6	13:35 3.6	19:37 0.9															
S	16	2:30 4.2	8:50 0.8	14:40 3.6	20:51 0.6	Tu	16	3:52 4.6	10:20 0.3	16:24 3.9	22:25 0.4	Tu	16	2:18 4.8	8:47 0.5	14:54 3.7	20:57 0.7															
S	17	3:25 4.5	9:50 0.6	15:46 3.7	21:50 0.5	W	17	4:51 4.9	11:13 0.0	17:25 4.2	23:26 0.0	W	17	3:27 4.5	9:53 0.3	16:06 4.0	22:09 0.4															
M	18	4:23 4.8	10:48 0.3	16:47 3.9	22:47 0.3	Th	18	5:48 5.3	12:13 -0.4	18:22 4.6		Th	18	4:29 4.8	10:54 -0.1	17:08 4.4	23:12 0.0															
Tu	19	5:15 5.1	11:42 0.0	17:45 4.1	23:43 0.1	F	19	6:24 -0.3	6:40 5.5	13:08 -0.7	19:13 5.0	F	19	5:27 5.1	11:48 -0.5	18:01 4.9																
S	W	20	6:08 5.3	12:35 -0.3	18:40 4.4		S	20	1:17 -0.5	7:30 5.7	13:52 -1.0	20:02 5.3	S	20	0:09 -0.4	6:20 5.4	12:38 -0.8	18:50 5.3														
●	Th	21	0:38 -0.1	6:59 5.5	13:25 -0.6	19:52 4.6	S	21	2:08 -0.7	8:20 5.7	14:38 -1.1	20:50 5.4	S	21	1:01 -0.7	7:12 5.5	13:26 -1.0	19:38 5.6														
P	F	22	1:30 -0.3	7:48 5.7	14:18 -0.8	20:22 4.8	M	22	2:58 -0.7	9:08 5.6	15:26 -1.0	21:38 5.5	M	22	1:51 -0.9	8:00 5.6	14:12 -1.0	20:25 5.7														
S	23	2:22 -0.3	8:37 5.6	15:01 -0.9	21:11 5.0	Tu	23	3:48 -0.6	9:58 5.4	16:12 -0.8	22:27 5.4	Tu	23	2:40 -0.9	8:48 5.5	14:57 -0.9	21:11 5.7															
S	24	3:18 -0.3	9:28 5.5	15:50 -0.9	22:02 5.0	W	24	4:40 -0.4	10:49 5.0	17:00 -0.5	23:18 5.2	W	24	3:28 -0.8	9:37 5.3	15:45 -0.7	21:58 5.5															
M	25	4:05 -0.2	10:18 5.3	16:38 -0.7	22:54 5.0	Th	25	5:33 -0.2	11:43 4.6	17:51 -0.1		Th	25	4:17 -0.6	10:27 4.9	16:32 -0.3	22:50 5.2															
E	Tu	26	5:00 -0.1	11:10 5.0	17:27 -0.5	23:47 5.0	F	26	6:12 4.9	6:32 0.1	12:42 4.2	18:48 0.2	F	26	5:10 -0.3	11:20 4.5	17:23 0.1	23:42 4.9														
W	27	5:57 0.1	12:05 4.7	18:20 0.2		S	27	7:10 4.7	7:35 0.4	13:50 3.9	19:50 0.5	S	27	6:06 0.1	12:20 4.1	18:20 0.5																
D	Th	28	6:42 4.8	6:48 0.2	13:05 4.3	19:16 0.0	S	28	8:12 4.5	8:43 0.5	15:02 3.8	20:57 0.6	S	28	6:40 4.6	7:08 0.4	13:28 3.8	19:25 0.7														
F	29	7:40 4.8	8:02 0.4	14:12 4.1	20:16 0.2								M	29	7:43 4.3	8:15 0.6	14:40 3.7	20:35 0.8														
S	30	8:40 4.7	9:09 0.4	15:20 4.0	21:18 0.3								Tu	30	8:47 4.2	9:20 0.6	15:47 3.7	21:41 0.8														
S	31	9:40 4.7	10:14 0.4	16:20 3.9	22:18 0.3								W	31	9:50 4.2	10:20 0.5	16:43 3.8	22:40 0.7														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m. ●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.	High.				Low.					W.	Mo.	High.				Low.					W.	Mo.	High.				Low.			
	F	1	4:17 -0.4	10:17 3.1	16:54 -0.6	22:48 2.6					M	1	5:30 -0.1	11:40 3.0	18:24 -0.4					W	1	0:06 2.1	6:10 0.1	12:13 2.7	18:56 -0.3							
	S	2	5:04 -0.3	11:08 3.1	17:48 -0.5	23:40 2.4				N	Tu	2	0:20 2.2	6:30 0.1	12:35 2.8	19:22 -0.2					Th	2	1:06 2.1	7:10 0.2	13:10 2.5	19:50 -0.1						
	S	3	5:55 -0.2	12:00 3.0	18:44 -0.3					W	3	1:25 2.0	7:32 0.2	13:36 2.6	20:22 -0.1					F	3	2:05 2.1	8:14 0.3	14:10 2.3	20:46 0.0							
	M	4	6:36 2.2	6:50 0.0	12:56 2.8	19:44 -0.2				C	Th	4	2:35 2.0	8:40 0.3	14:40 2.4	21:24 0.0				C	S	4	3:06 2.1	9:20 0.4	15:15 2.1	21:40 0.1						
N	Tu	5	1:40 2.1	7:54 0.1	13:58 2.6	20:48 0.0					F	5	3:45 2.0	9:48 0.3	15:50 2.2	22:23 0.1					S	5	4:02 2.1	10:22 0.4	16:18 2.0	22:34 0.1						
C	W	6	2:54 1.9	9:00 0.2	15:05 2.5	21:56 0.1					S	6	4:49 2.1	10:54 0.3	16:58 2.2	23:16 0.1				E	M	6	4:50 2.2	11:18 0.4	17:15 1.9	23:20 0.1						
	Th	7	4:10 1.9	10:06 0.3	16:15 2.4	22:57 0.1					S	7	5:40 2.2	11:50 0.3	17:54 2.1				A	Tu	7	5:34 2.3	12:07 0.3	18:05 1.9								
	F	8	5:22 2.0	11:12 0.2	17:22 2.3	23:54 0.1					M	8	6:05 0.1	6:22 2.3	12:40 0.2	18:40 2.1					W	8	6:05 0.2	6:12 2.4	12:58 0.2	18:46 1.8						
	S	9	6:18 2.1	12:12 0.2	18:20 2.3						Tu	9	6:48 0.1	6:58 2.4	13:24 0.1	19:24 2.1					Th	9	6:45 0.2	6:50 2.5	13:33 0.1	19:25 1.8						
	S	10	6:43 0.0	7:02 2.2	13:05 0.1	19:12 2.3			A	E	W	10	7:26 0.0	7:32 2.5	14:00 0.0	20:00 2.0					F	10	7:25 0.2	7:25 2.6	14:12 0.1	20:00 1.8						
	M	11	7:25 0.0	7:38 2.3	13:50 0.0	19:54 2.3					Th	11	8:00 0.1	8:00 2.6	14:40 0.0	20:30 2.0					S	11	8:04 0.2	8:04 2.7	14:52 -0.1	20:35 1.9						
	Tu	12	8:10 0.0	8:10 2.4	14:30 0.0	20:30 2.3			●		F	12	8:34 0.1	8:34 2.7	15:18 -0.1	21:04 2.0			●		S	12	8:40 2.3	8:43 2.8	15:32 -0.2	21:10 1.9						
E	W	13	8:40 0.0	8:40 2.5	15:08 0.0	21:03 2.2					S	13	9:10 0.2	9:10 2.7	15:55 -0.1	21:30 2.0					M	13	8:17 0.3	9:22 2.8	16:14 -0.2	21:50 2.0						
●	Th	14	9:13 0.0	9:10 2.5	15:45 0.0	21:34 2.2					S	14	9:45 0.3	9:45 2.7	16:37 -0.1	22:06 2.0			S	Tu	14	4:00 0.3	10:05 2.8	16:58 -0.2	22:35 2.1							
	F	15	9:48 0.1	9:40 2.6	16:20 -0.1	22:04 2.1					M	15	10:26 0.4	10:26 2.7	17:20 -0.1	22:48 2.0					W	15	4:42 0.3	10:50 2.8	17:45 -0.2	23:20 2.1						
	S	16	10:20 0.2	10:15 2.6	17:00 0.0	22:35 2.0			S	Tu	16	10:55 0.4	11:10 2.6	18:08 -0.1	23:34 2.0					Th	16	5:34 0.3	11:40 2.7	18:30 -0.2								
	S	17	10:50 0.3	10:54 2.6	17:45 0.0	23:07 2.0					W	17	11:58 0.5	11:58 2.6	18:58 0.0					F	17	6:15 2.2	6:34 0.3	12:30 2.5	19:22 -0.1							
	M	18	11:24 0.4	11:35 2.5	18:30 0.1	23:50 1.9					Th	18	12:05 2.0	12:05 2.5	19:50 0.1					S	18	7:11 2.3	7:36 0.3	13:26 2.4	20:15 -0.1							
	Tu	19	12:04 0.5	12:20 2.5	19:24 0.1						F	19	13:00 2.0	13:00 2.5	20:48 0.1				D	S	19	7:10 2.4	8:42 0.2	14:27 2.3	21:05 0.0							
S	W	20	1:04 1.9	6:56 0.6	13:15 2.4	20:20 0.2			D		S	20	13:55 2.1	14:00 0.4	22:42 2.3	21:42 0.0			E	M	20	8:10 2.5	9:45 0.1	15:32 2.2	22:03 -0.1							
	Th	21	1:45 1.8	8:12 0.6	14:14 2.3	21:18 0.2					S	21	14:37 2.3	14:37 0.2	22:35 2.3	21:35 0.0					Tu	21	9:06 2.6	10:47 0.0	16:35 2.1	22:58 -0.1						
D	F	22	2:56 1.9	9:25 0.5	15:20 2.3	22:15 0.1					M	22	15:05 2.5	15:05 0.1	23:27 2.3	22:27 -0.1					W	22	10:02 2.7	11:45 -0.1	17:36 2.1	23:50 -0.1						
	S	23	4:05 2.0	10:30 0.3	16:24 2.3	23:10 0.0			E	Tu	23	16:30 2.6	16:30 -0.1	23:00 2.3				P	Th	23	11:05 2.9	12:42 -0.2	18:35 2.1									
	S	24	5:03 2.2	11:30 0.1	17:24 2.4						W	24	17:16 -0.2	17:16 2.8	23:00 -0.3	24:00 2.4					F	24	12:04 -0.2	13:48 3.0	19:35 -0.3	19:28 2.1						
	M	25	6:00 -0.1	6:56 2.5	12:25 -0.1	18:22 2.6			P	Th	25	17:05 -0.3	17:05 3.0	23:50 -0.5	24:50 2.4					S	25	13:02 -0.2	14:40 3.1	20:24 -0.3	20:20 2.2							
	Tu	26	6:46 -0.2	6:44 2.7	13:16 -0.3	19:14 2.6					F	26	15:52 -0.3	15:52 3.2	23:40 -0.5	24:40 2.4			O	S	26	14:02 -0.2	15:40 3.1	21:12 -0.4	21:12 2.2							
E	W	27	7:32 -0.3	7:30 2.9	14:05 -0.5	20:05 2.6			O		S	27	16:40 -0.3	16:40 3.3	23:30 -0.5	24:30 2.3			N	M	27	15:14 -0.2	16:50 3.1	22:00 -0.4	22:00 2.2							
O	Th	28	8:20 -0.4	8:18 3.1	14:55 -0.6	20:52 2.6					S	28	17:30 -0.2	17:30 3.2	24:20 -0.5	25:20 2.3					Tu	28	16:05 -0.1	17:40 3.0	22:54 -0.4	22:54 2.2						
	F	29	9:04 -0.4	9:06 3.2	15:45 -0.7	21:40 2.6			N	M	29	18:20 -0.1	18:20 3.1	25:10 -0.4	26:10 2.2					W	29	17:00 0.0	18:40 2.8	23:45 -0.3	23:45 2.2							
	S	30	9:50 -0.3	9:55 3.2	16:36 -0.6	22:30 2.4					Tu	30	19:10 0.0	19:10 2.9	26:00 -0.4					Th	30	18:50 0.1	20:30 2.6	24:30 -0.2								
	S	31	10:45 -0.2	10:45 3.1	17:28 -0.5	23:22 2.3														F	31	19:40 2.2	21:20 0.2	25:20 2.4	19:17 -0.1							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quart.; O, full moon; C, 3d quart.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	0:25 0.3	6:26 7.5	13:30 -0.2	19:15 6.7	N O	M	1	2:20 0.6	8:18 7.4	15:08 -0.4	21:12 6.7	N O	M	1	1:06 0.8	6:55 6.9	13:53 0.0	20:00 6.4												
	S	2	1:35 0.3	7:40 7.7	14:30 -0.5	20:25 6.8		Tu	2	3:24 0.3	9:12 7.5	16:00 -0.6	22:04 6.9		Tu	2	2:15 0.6	8:05 7.1	14:50 -0.2	21:00 6.7												
	S	3	2:38 0.2	8:36 7.8	15:25 -0.7	21:27 7.0		W	3	4:08 0.3	10:00 7.6	16:42 -0.7	22:45 6.9		W	3	3:12 0.4	9:00 7.2	15:38 -0.4	21:46 6.9												
	M	4	3:34 0.1	9:32 7.9	16:15 -0.9	22:15 7.0		Th	4	4:56 0.1	10:50 7.7	17:22 -0.7	23:20 7.0		Th	4	4:00 0.2	9:45 7.3	16:20 -0.5	22:28 7.0												
	Tu	5	4:20 0.1	10:15 8.0	17:00 -1.0	23:00 7.1		F	5	5:32 0.1	11:20 7.6	17:57 -0.5	23:50 7.1		F	5	4:37 0.1	10:22 7.4	16:58 -0.4	22:52 7.1												
	W	6	5:06 0.1	10:55 7.9	17:43 -0.9	23:38 7.0		S	6	6:06 0.2	11:55 7.5	18:25 -0.3			S	6	5:13 -0.1	10:56 7.4	17:24 -0.3	23:15 7.3												
	Th	7	5:48 0.2	11:40 7.8	18:20 -0.7			S	7	6:20 7.2	12:30 0.2	18:53 7.4	-0.2		A	S	7	5:40 -0.1	11:27 7.4	17:51 -0.3	23:45 7.5											
	F	8	6:20 7.0	12:25 0.3	12:17 7.6	18:55 -0.5		A	M	8	6:54 7.3	7:08 0.2	13:07 7.2		19:23 -0.1	M	8	6:02 -0.1	12:00 7.4	18:13 -0.2												
	S	9	6:50 7.0	7:04 0.4	12:58 7.4	19:30 -0.2		E	Tu	9	1:30 7.3	7:44 0.3	13:42 7.0		19:57 0.1	E	Tu	9	6:18 7.7	6:35 -0.2	12:34 7.3	18:45 -0.1										
	S	10	1:27 7.0	7:40 0.6	13:38 7.1	20:05 0.1		W	10	2:08 7.3	8:23 0.3	14:21 6.9	20:34 0.3		W	10	6:52 7.7	7:10 -0.2	13:10 7.2	19:18 0.0												
A E C	M	11	2:05 6.9	8:20 0.7	14:20 6.8	20:40 0.3	Th	11	2:48 7.3	9:06 0.4	15:03 6.7	21:13 0.5	Th	11	1:31 7.8	7:48 -0.2	13:48 7.1	19:53 0.1														
	Tu	12	2:46 6.9	9:05 0.8	14:58 6.6	21:18 0.5	F	12	3:38 7.3	9:55 0.4	15:50 6.6	21:59 0.7	F	12	2:11 7.7	8:32 0.0	14:30 7.0	20:37 0.3														
	W	13	3:30 6.9	9:50 0.8	15:42 6.4	22:00 0.7	C	S	13	4:20 7.3	10:48 0.4	16:42 6.5	22:52 0.8	S	13	2:57 7.5	9:20 0.1	15:17 6.8	21:24 0.5													
	Th	14	4:16 6.9	10:40 0.8	16:30 6.3	22:46 0.8	S	14	5:17 7.2	11:45 0.4	17:42 6.4	23:52 0.8	C	S	14	3:46 7.4	10:14 0.2	16:12 6.6	22:22 0.7													
	F	15	5:03 7.1	11:32 0.6	17:22 6.2	23:35 0.8	M	15	6:14 7.3	12:47 0.1	18:43 6.5		M	15	4:43 7.2	11:18 0.3	17:13 6.5	23:25 0.8														
	S	16	5:58 7.2	12:28 0.4	18:20 6.4		S	Tu	16	6:55 0.6	7:13 7.5	18:47 -0.2	19:46 6.9	S	Tu	16	5:45 7.2	12:17 0.2	18:19 6.6													
	S	17	6:30 0.8	6:50 7.4	13:24 0.1	19:15 6.6	W	17	1:58 0.3	8:12 7.8	14:45 -0.5	20:47 7.3	W	17	6:34 0.6	6:48 7.3	13:21 0.0	19:26 7.0														
	M	18	1:25 0.5	7:44 7.7	14:18 -0.3	20:14 6.9	Th	18	2:58 -0.1	9:08 8.1	15:40 -0.9	21:42 7.8	Th	18	1:43 0.3	7:52 7.6	14:23 -0.4	20:27 7.5														
	Tu	19	2:20 0.3	8:38 8.0	15:10 -0.7	21:07 7.3	F	19	3:56 -0.6	10:02 8.5	16:30 -1.3	22:33 8.2	F	19	2:47 -0.2	8:52 8.0	15:18 -0.8	21:21 8.0														
	S	W	20	3:15 -0.1	9:30 8.3	16:00 -1.0	22:00 7.7	P	S	20	4:48 -1.0	10:56 8.7	17:17 -1.5	23:24 8.5	S	20	3:43 -0.8	9:46 8.4	16:10 -1.2	22:14 8.5												
P E D	Th	21	4:10 -0.4	10:22 8.6	16:50 -1.3	22:50 8.0	P E D	S	21	5:38 -1.2	11:46 8.8	18:07 -1.6		P E D	S	21	4:37 -1.2	10:38 8.6	16:56 -1.4	23:03 8.8												
	F	22	5:00 -0.7	11:10 8.7	17:40 -1.4	23:42 8.2		E	M	22	6:12 8.7	6:29 -1.3	12:55 8.6		18:54 -1.4	E	M	22	5:37 -1.5	11:28 8.7	17:43 -1.4	23:52 9.0										
	S	23	5:54 -0.8	12:02 8.7	18:26 -1.4			Tu	23	1:02 8.7	7:22 -1.1	13:25 8.3	19:42 -1.1		Tu	23	6:13 -1.6	12:17 8.5	18:30 -1.3													
	S	24	6:32 8.3	6:45 -0.8	12:54 8.5	19:16 -1.3		W	24	1:52 8.5	8:15 -0.9	14:17 7.8	20:32 -0.6		W	24	6:38 8.9	7:02 -1.4	13:06 8.2	19:18 -0.9												
	M	25	1:23 8.3	7:40 -0.7	13:45 8.2	20:05 -1.0		Th	25	2:43 8.2	9:13 -0.5	15:10 7.3	21:28 -0.1		Th	25	1:27 8.6	7:55 -1.0	13:56 7.8	20:07 -0.4												
	Tu	26	2:15 8.2	8:33 -0.5	14:36 7.8	20:56 -0.6		F	26	3:37 7.8	10:16 -0.1	16:10 6.8	22:31 0.5		F	26	2:17 8.2	8:53 -0.6	14:50 7.2	21:03 0.1												
	W	27	3:10 8.0	9:35 -0.2	15:32 7.3	21:54 -0.2		S	27	4:37 7.3	11:28 0.2	17:17 6.3	23:45 0.8		S	27	3:10 7.7	9:55 -0.1	15:47 6.6	22:08 0.7												
	Th	28	4:02 7.7	10:44 0.0	16:32 6.9	22:55 0.3		S	28	5:44 7.0	12:45 0.2	18:45 6.2			S	28	4:10 7.1	11:02 0.3	16:58 6.2	23:30 1.0												
	F	29	5:05 7.5	11:55 0.1	17:40 6.5										M	29	5:17 6.7	12:20 0.3	18:25 6.1													
	S	30	6:05 0.5	6:12 7.8	13:10 0.0	19:00 6.3									Tu	30	6:02 0.9	6:30 6.6	13:27 0.2	19:35 6.3												
	S	31	1:20 0.6	7:17 7.3	14:14 -0.2	20:15 6.5									W	31	1:57 0.7	7:45 6.8	14:25 0.0	20:32 6.6												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.							
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.						W.	Mo.						W.	Mo.					
A	Th	1	2:48	8:36	15:12	21:12	E	S	1	3:00	8:40	15:07	20:56	O	Tu	1	3:20	9:05	15:10	21:18	
			0.4	6.9	-0.1	6.8				0.3	6.6	0.3	7.0				0.0	6.7	0.4	7.8	
	F	2	3:36	9:20	15:52	21:48			S	2	3:35	9:13	15:34		21:24	W	2	3:58	9:46	15:29	22:00
			0.1	7.0	-0.2	7.0				0.1	6.7	0.3	7.4				-0.4	7.0	0.1	8.1	
	S	3	4:10	9:55	16:24	22:10			M	3	4:02	9:45	15:58		21:57	Th	3	4:30	10:26	16:29	22:42
E			0.0	7.1	-0.2	7.2			-0.1	6.9	0.2	7.8			-0.7	7.3	-0.1	8.3			
	S	4	4:40	10:26	16:45	22:36	O	Tu	4	4:29	10:21	16:26	22:31	S	F	4	5:08	11:06	17:12	23:24	
			-0.1	7.2	-0.1	7.5				-0.4	7.2	0.0	8.0				-1.0	7.5	-0.2	8.4	
	M	5	5:04	10:55	17:07	23:07			W	5	4:52	10:55	17:00		23:10	S	5	5:52	11:52	17:57	
			-0.2	7.3	-0.1	7.8				-0.6	7.3	-0.1	8.2				-1.1	7.6	-0.3		
Tu	6	5:31	11:28	17:36	23:43			Th	6	5:35	11:33	17:37	23:50			S	6	0:10	6:36	12:39	18:43
O			-0.4	7.4	-0.2	8.0			-0.8	7.4	-0.2	8.3			8.4	-1.0	7.6	-0.2			
	W	7	6:08	12:02	18:08		S	F	7	6:12	12:18	18:17		C	M	7	0:55	7:23	13:30	19:34	
			-0.6	7.4	-0.2					-0.9	7.5	-0.2					8.2	-0.9	7.6	0.0	
	Th	8	0:18	6:40	12:39	18:43			S	8	0:31	6:56	12:57		19:00	Tu	8	1:48	8:13	14:22	20:32
			8.1	-0.6	7.4	-0.1				8.3	-0.8	7.5	-0.1				8.0	-0.7	7.5	0.1	
F	9	0:57	7:20	13:20	19:22	C		S	9	1:15	7:42	13:43	19:48		W	9	2:40	9:05	15:18	21:32	
		8.1	-0.5	7.3	0.0				8.1	-0.7	7.4	0.1			7.6	-0.4	7.4	0.3			
S	10	1:40	8:03	14:04	20:08			M	10	2:03	8:30	14:36	20:43	Th	10	3:38	10:02	16:18	22:40		
		7.9	-0.4	7.2	0.2				7.8	-0.4	7.2	0.4			7.3	-0.2	7.3	0.3			
S	11	2:26	8:52	14:53	21:00			Tu	11	2:56	9:25	15:34	21:46	E	F	11	4:40	11:05	17:19	23:51	
S			7.7	-0.2	7.0	0.5	C			7.5	-0.2	7.0	0.5				7.1	0.0	7.4	0.3	
	M	12	3:18	9:47	15:50	22:00			W	12	3:56	10:25	16:37		22:51	S	12	5:47	12:10	18:22	
			7.4	0.0	6.8	0.7				7.2	0.0	7.0	0.6				6.9	0.1	7.6		
	Tu	13	4:17	10:47	16:53	23:08			Th	13	5:00	11:28	17:42			S	13	1:01	6:51	13:15	19:23
			7.2	0.2	6.7	0.7				7.0	0.1	7.1				0.0	6.9	0.1	7.8		
C	W	14	5:20	11:51	18:00		E	F	14	0:06	6:07	12:36	18:45	P	M	14	2:08	7:54	14:18	20:22	
			7.1	0.2	6.8					0.4	7.0	0.1	7.4				-0.3	7.1	0.0	8.1	
	Th	15	0:20	6:27	12:57	19:05			S	15	1:18	7:13	13:40		19:45	Tu	15	3:08	8:57	15:10	21:12
			0.6	7.1	0.0	7.2				0.1	7.2	-0.2	7.8				-0.7	7.2	-0.2	8.3	
	F	16	1:32	7:33	14:02	20:06		P	S	16	2:23	8:15	14:37		20:40	W	16	3:57	9:52	16:05	22:06
		0.2	7.4	-0.3	7.7				-0.4	7.4	-0.4	8.3			-1.0	7.4	-0.3	8.4			
S	17	2:35	8:32	14:58	21:02		M		17	3:18	9:10	15:27	21:32	N	Th	17	4:43	10:42	16:55	22:52	
		-0.4	7.8	-0.7	8.2				-0.9	7.7	-0.6	8.6				-1.2	7.4	-0.3	8.4		
S	18	3:32	9:28	15:50	21:53		Tu		18	4:10	10:05	16:17	22:20		F	18	5:32	11:30	17:40	23:37	
		-0.9	8.1	-1.0	8.7			-1.3	7.9	-0.8	8.8				-1.2	7.4	-0.2	8.3			
M	19	4:22	10:20	16:38	22:40	N	W	19	4:57	10:53	17:04	23:07	S		19	6:22	12:15	18:23			
		-1.3	8.3	-1.2	9.0				-1.4	7.9	-0.7	8.8			-1.0	7.3	0.0				
Tu	20	5:12	11:10	17:25	23:27			Th	20	5:45	11:40	17:50	23:53	S	20	0:28	7:05	12:59	19:13		
		-1.6	8.4	-1.2	9.0				-1.4	7.8	-0.6	8.6			8.0	-0.8	7.2	0.2			
W	21	5:58	11:58	18:08			D	F	21	6:32	12:28	18:37		M	21	1:07	7:47	13:44	20:00		
		-1.6	8.2	-1.0					-1.3	7.6	-0.3				7.7	-0.5	7.0	0.5			
Th	22	0:15	6:45	12:47	18:55	A		S	22	0:41	7:18	13:18	19:28	Tu	22	1:53	8:32	14:32	20:50		
		8.9	-1.4	8.0	-0.7					8.3	-1.0	7.3	0.1			7.3	-0.1	6.8	0.7		
F	23	1:02	7:38	13:37	19:45				S	23	1:28	8:10	14:08	20:22	W	23	2:40	9:17	15:17	21:42	
		8.5	-1.0	7.5	-0.2				8.8	-0.5	7.0	0.5			6.9	0.2	6.6	0.9			
S	24	1:51	8:28	14:30	20:40			M	24	2:18	9:01	15:03	21:21	Th	24	3:28	10:03	16:03	22:38		
N			8.0	-0.6	7.0	0.4			7.3	-0.1	6.6	0.8			6.5	0.6	6.6	1.1			
	S	25	2:43	9:27	15:27	21:45		Tu	25	3:12	10:01	16:00	22:30	F	25	4:17	10:43	16:50	23:30		
			7.5	-0.1	6.6	0.8			6.9	0.3	6.4	1.1			6.2	0.8	6.6	1.1			
	M	26	3:41	10:37	16:32	23:05	D	W	26	4:07	10:57	16:58	23:37	S	26	5:07	11:28	17:40			
			6.9	0.3	6.2	1.1				6.5	0.5	6.2	1.1			6.0	1.0	6.7			
Tu	27	4:45	11:47	17:50				Th	27	5:05	11:58	17:53		S	27	0:22	5:59	12:12	18:25		
		6.5	0.4	6.1					6.2	0.7	6.3				1.0	6.0	1.1	6.9			
W	28	0:30	5:57	12:52	19:00	E		F	28	0:44	6:06	12:51	18:38	M	28	1:08	6:48	12:58	19:11		
		0.9	6.3	0.4	6.3				0.9	6.1	0.7	6.5			0.8	6.1	1.0	7.2			
Th	29	1:27	7:07	13:46	19:48			S	29	1:34	6:58	13:33	19:25	Tu	29	1:54	7:37	13:43	19:57		
		0.8	6.4	0.3	6.5				0.7	6.1	0.8	6.7			0.4	6.3	0.8	7.5			
F	30	2:20	8:02	14:30	20:25			S	30	2:03	7:44	14:06	20:00	W	30	2:37	8:26	14:30	20:43		
A			0.5	6.5	0.3	6.8			0.5	6.2	0.8	7.1			0.1	6.6	0.5	7.8			
							M	31	2:45	8:25	14:36	20:38									
									0.3	6.5	0.6	7.5									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon: all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.								W.	Mo.											
O	Th	1	3:20	9:18	15:18	21:31				○	S	1	4:25	10:29	16:37	22:47	P	W	1	5:39	11:46	18:01										
			—0.4	6.9	0.2	8.1							—1.0	7.8	—0.5	8.5				—1.5	8.8	—1.4										
	F	2	4:01	9:58	16:05	22:17				M	2	5:11	11:16	17:28	23:36	E	Th	2	0:06	6:25	12:33	18:51										
			—0.7	7.3	—0.1	8.3						—1.3	8.1	—0.8	8.6				8.7	—1.4	8.9	—1.3										
	S	3	4:47	10:47	16:52	23:05				P	Tu	3	6:00	12:06	18:18				0:58	7:11	13:21	19:45										
N			—1.0	7.5	—0.3	8.5						—1.4	8.3	—0.9					8.5	—1.2	8.7	—1.1										
	S	4	5:32	11:35	17:42	23:52				W	4	6:26	12:46	19:10				1:49	8:00	14:11	20:38											
			—1.2	7.8	—0.5	8.5						8.6	—1.3	8.4	—0.9				8.1	—0.8	8.4	—0.8										
	M	5	6:18	12:24	18:32					E	Th	5	1:15	7:35	13:45	20:01				2:40	8:53	15:05	21:38									
			—1.2	7.9	—0.5							8.3	—1.1	8.3	—0.7				7.6	—0.8	8.0	—0.3										
P	Tu	6	6:42	7:05	13:14	19:23						2:04	8:25	14:36	20:59	C	M	6	3:36	9:50	16:02	22:46										
			8.4	—1.2	7.9	—0.4						8.0	—0.8	8.2	—0.5				7.0	0.3	7.6	0.1										
	W	7	1:32	7:54	14:05	20:19				S	7	3:00	9:16	15:31	21:59				4:40	11:02	17:08											
			8.1	—1.1	7.9	—0.8						7.6	—0.4	7.9	—0.2				6.5	0.7	7.2											
	Th	8	2:24	8:47	15:00	21:17				C	S	8	3:58	10:15	16:28	23:06	N	W	8	0:05	6:02	12:29	18:20									
E			7.8	—0.6	7.8	—0.1						7.1	0.1	7.7	0.1				0.2	6.2	0.8	6.9										
	F	9	3:20	9:40	15:57	22:20				M	9	5:01	11:20	17:31				1:21	7:26	13:47	19:35											
			7.4	—0.3	7.7	0.1						6.7	0.5	7.4				0.1	6.3	0.6	7.0											
	S	10	4:19	10:37	16:54	23:30				Tu	10	6:24	12:35	18:40				2:25	8:34	14:49	20:41											
			7.1	0.0	7.6	0.1						0.1	6.4	0.7	7.3				—0.2	6.7	0.2	7.3										
C	S	11	5:23	11:43	17:57				W	11	1:39	7:51	13:51	19:47				3:19	9:25	15:41	21:30											
			6.9	0.3	7.6						—0.1	6.4	0.6	7.3				—0.5	6.9	—0.1	7.4											
	M	12	6:38	12:50	19:00				N	Th	12	2:43	8:45	14:56	20:50				4:04	10:09	16:25	22:15										
			0.1	6.7	0.4	7.6						—0.4	6.7	0.3	7.5				—0.6	7.2	—0.2	7.5										
	Tu	13	1:54	7:42	13:54	20:02				F	13	3:35	9:43	15:51	21:45				4:44	10:41	17:02	22:54										
N			—0.2	6.3	0.4	7.7						—0.6	6.9	0.1	7.7				—0.6	7.3	—0.3	7.5										
	W	14	2:55	8:48	14:58	21:00				S	14	4:23	10:30	16:38	22:28	●	Tu	14	5:17	11:10	17:34	23:17										
			—0.5	6.8	0.2	7.9						—0.8	7.1	0.0	7.7				—0.5	7.4	—0.3	7.4										
	Th	15	3:46	9:45	15:54	21:51				●	S	15	5:06	11:09	17:21	23:10				5:41	11:35	17:58	23:50									
			—0.8	7.0	0.1	8.0						—0.8	7.2	—0.1	7.7				—0.3	7.6	—0.2	7.4										
●	F	16	4:36	10:36	16:47	22:40				M	16	5:44	11:45	18:01	23:44				6:06	12:05	18:26											
			—1.0	7.1	0.0	8.0						—0.7	7.3	—0.2	7.6				—0.2	7.7	—0.2											
	S	17	5:22	11:21	17:34	23:28				Tu	17	6:19	12:10	18:29				0:23	6:31	12:39	18:57											
			—1.0	7.2	—0.1	8.0						—0.6	7.3	0.0				7.3	—0.1	7.7	—0.2											
	S	18	6:05	12:00	18:12					W	18	7:05	13:03	19:11				0:56	7:04	13:14	19:33											
A			—0.9	7.2	0.0						7.5	—0.3	7.4	0.0				7.2	0.1	7.7	—0.2											
	M	19	6:43	12:40	18:53				A	Th	19	7:56	13:53	19:32				1:30	7:39	13:52	20:15											
			7.8	—0.7	7.2	0.1				E		7.3	—0.1	7.4	0.1				7.1	0.2	7.6	0.0										
	Tu	20	7:22	13:17	19:35					F	20	8:43	14:32	20:10				2:11	8:16	14:35	20:59											
			7.6	—0.4	7.1	0.3						7.1	0.1	7.4	0.2				6.9	0.4	7.5	0.1										
E	W	21	1:27	7:55	13:55	20:12				S	21	2:05	8:18	14:30	20:50				2:56	9:01	15:21	21:49										
			7.3	—0.1	7.1	0.5						6.9	0.3	7.3	0.3				6.7	0.6	7.3	0.3										
	Th	22	2:07	8:27	14:34	20:50				S	22	2:47	8:56	15:13	21:35				3:45	9:54	16:15	22:46										
			7.0	0.2	7.0	0.6						6.6	0.6	7.2	0.4				6.6	0.8	7.1	0.4										
	F	23	2:47	9:03	15:17	21:35				D	M	23	3:29	9:38	16:00	22:26				4:43	10:56	17:15	23:49									
D			6.7	0.5	6.9	0.7						6.5	0.8	7.1	0.5				6.5	0.9	7.0	0.4										
	S	24	3:30	9:44	16:00	22:23				Tu	24	4:19	10:28	16:51	23:21				5:46	12:05	18:18											
			6.4	0.7	6.9	0.8						6.3	0.9	7.1	0.5				6.6	0.8	7.1											
	S	25	4:12	10:27	16:45	23:18				W	25	5:16	11:25	17:48					0:55	6:53	13:13	19:21										
			6.2	0.9	6.9	0.8						6.2	1.0	7.1					0.2	6.8	0.5	7.4										
N	M	26	5:07	10:14	17:35				Th	26	6:01	12:10	18:29	24:47					1:58	7:58	14:16	20:21										
			6.1	1.0	7.0						0.4	6.4	0.9	7.2				—0.2	7.3	0.0	7.8											
	Tu	27	6:07	5:57	12:08	18:25			S	F	27	1:21	7:20	13:31	19:46				2:50	8:53	15:15	21:19										
			0.7	6.1	1.0	7.1						0.1	6.6	0.6	7.5				—0.6	7.9	—0.6	8.2										
	W	28	1:03	6:54	13:02	19:20				S	28	2:20	8:20	14:32	20:42				3:41	9:46	16:10	22:11										
S			0.5	6.3	0.8	7.4						—0.2	7.1	0.1	7.9				—1.0	8.4	—1.1	8.5										
	Th	29	1:57	7:50	13:57	20:13				S	29	3:15	9:16	15:29	21:38				4:29	10:36	16:58	23:01										
			0.1	6.5	0.6	7.7						—0.6	7.6	—0.4	8.2				—1.3	8.8	—1.5	8.6										
	F	30	1:48	8:45	14:52	21:05				M	30	4:05	10:09	16:25	22:29				5:15	11:24	17:46	23:50										
			—0.3	6.9	0.2	8.0						—1.1	8.1	—0.8	8.6				—1.4	9.1	—1.6	8.6										
	S	31	3:37	9:37	15:46	21:57			○	Tu	31	4:52	10:58	17:12	23:20																	
			—0.7	6.4	—0.2	8.3						—1.4	8.5	—1.2	8.7																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	6:01 -1.3	12:10 9.1	18:35 -1.6						M	1	1:10 7.8	7:18 -0.4	13:25 8.3	20:01 -0.9		W	1	1:46 7.2	8:01 0.2	13:59 7.6	20:40 -0.4									
	S	2	0:38 8.4	6:49 -1.1	12:59 8.8	19:25 -1.3					N Tu	2	2:04 7.3	8:15 0.1	14:19 7.8	21:00 -0.4		Th	2	2:40 6.9	9:00 0.6	14:51 7.1	21:40 0.0									
	S	3	1:29 8.0	7:39 -0.7	13:49 8.5	20:20 -0.9					W	3	3:01 6.9	9:19 0.6	15:15 7.2	22:05 0.0		F	3	3:40 6.6	10:10 0.8	15:48 6.7	22:40 0.3									
	M	4	2:21 7.5	8:31 -0.1	14:41 7.9	21:19 -0.4					C Th	4	4:06 6.5	10:39 0.8	16:19 6.8	23:19 0.2		S	4	4:40 6.5	11:20 0.8	16:50 6.3	23:40 0.5									
	Tu	5	3:19 6.9	9:33 0.4	15:39 7.4	22:26 0.0					F	5	5:25 6.3	11:58 0.8	17:36 6.5			S	5	5:40 6.4	12:28 0.7	17:55 6.1										
	W	6	4:25 6.4	10:42 0.8	16:45 6.9	23:45 0.2					S	6	0:25 0.3	6:33 6.5	13:04 0.6	18:45 6.5		E M	6	0:33 0.7	6:35 6.5	13:20 0.6	18:46 6.1									
	Th	7	5:49 6.2	12:19 0.8	18:05 6.7						S	7	1:25 0.2	7:30 6.7	14:00 0.4	19:43 6.5		A Tu	7	1:21 0.8	7:30 6.7	14:06 0.5	19:39 6.1									
	F	8	0:59 0.1	7:10 6.5	13:30 0.6	19:18 6.8					M	8	2:15 0.2	8:15 6.9	14:49 0.1	20:34 6.6		W	8	2:01 0.8	7:51 7.0	14:45 0.3	20:16 6.2									
	S	9	2:00 -0.1	8:10 6.7	14:29 0.3	20:20 7.0					A Tu	9	2:55 0.2	8:50 7.1	15:26 0.0	21:15 6.7		Th	9	2:29 0.8	8:28 7.2	15:16 0.2	20:55 6.4									
	S	10	2:51 -0.2	9:00 7.1	15:18 0.0	21:09 7.1					W	10	3:27 0.3	9:19 7.3	16:00 -0.1	21:37 6.8		F	10	3:00 0.7	9:03 7.5	15:48 -0.1	21:33 6.7									
E A ●	M	11	3:36 -0.3	9:37 7.2	16:00 -0.2	21:49 7.2				Th	11	3:54 0.3	9:45 7.6	16:26 -0.3	22:10 6.9		S	11	3:35 0.5	9:44 7.8	16:19 -0.4	22:11 6.9										
	Tu	12	4:10 -0.2	10:05 7.3	16:34 -0.3	22:19 7.1				● F	12	4:16 0.2	10:20 7.8	16:51 -0.4	22:45 7.1		S	12	4:12 0.3	10:24 8.0	16:55 -0.6	22:51 7.1										
	W	13	4:39 -0.1	10:31 7.5	17:02 -0.3	22:45 7.2				S	13	4:45 0.1	10:55 8.0	17:21 -0.6	23:20 7.2		M	13	4:31 0.1	11:05 8.1	17:34 -0.8	23:33 7.3										
	Th	14	5:00 0.0	10:55 7.7	17:24 -0.4	23:19 7.2				S	14	5:20 0.1	11:31 8.1	18:00 -0.7	23:56 7.3		Tu	14	5:36 0.0	11:49 8.2	18:15 -0.9											
	F	15	5:23 0.0	11:29 7.9	17:52 -0.5	23:50 7.2				M	15	5:58 0.0	12:12 8.1	18:39 -0.7			W	15	0:16 7.5	6:20 -0.1	12:35 8.1	19:00 -0.8										
	S	16	5:55 0.0	12:03 8.0	18:25 -0.5					S Tu	16	6:35 7.3	6:40 0.1	12:54 8.0	19:21 -0.6		Th	16	1:03 7.6	7:10 -0.1	13:21 8.0	19:46 -0.7										
	S	17	0:24 7.2	6:27 0.0	12:40 8.0	19:03 -0.5				W	17	1:21 7.3	7:26 0.2	13:40 7.8	20:08 -0.4		F	17	1:54 7.6	8:03 0.1	14:12 7.7	20:36 -0.5										
	M	18	1:01 7.2	7:03 0.1	13:20 7.8	19:45 -0.4				Th	18	2:11 7.2	8:17 0.4	14:30 7.5	20:57 -0.2		S	18	2:48 7.5	9:00 0.2	15:07 7.4	21:30 -0.3										
	Tu	19	1:44 7.1	7:46 0.3	14:04 7.6	20:30 -0.2				F	19	3:04 7.1	9:15 0.5	15:26 7.2	21:53 0.0		S	19	3:44 7.5	10:03 0.2	16:05 7.2	22:27 0.0										
	S	W	20	2:30 6.9	8:35 0.5	14:52 7.4	21:20 0.0			D S	20	4:03 7.1	10:20 0.6	16:26 7.0	22:53 0.1		E M	20	4:44 7.5	11:10 0.2	17:08 7.0	23:26 0.1										
D ●	Th	21	3:24 6.8	9:31 0.7	15:48 7.1	22:18 0.2				S	21	5:05 7.2	11:29 0.5	17:30 6.9	23:54 0.1		Tu	21	5:44 7.6	12:18 0.1	18:12 6.9											
	F	22	4:22 6.7	10:35 0.7	16:49 7.0	23:19 0.3				M	22	6:10 7.4	12:39 0.2	18:37 7.0			W	22	0:30 0.2	6:45 7.8	13:26 -0.2	19:16 7.0										
	S	23	5:29 0.8	11:17 0.6	17:35 7.0					E Tu	23	0:59 0.0	7:10 7.7	13:45 -0.2	19:29 7.3		P Th	23	1:31 0.1	7:44 8.0	14:29 -0.5	20:17 7.1										
	S	24	0:21 0.1	6:34 7.1	12:55 0.3	19:00 7.2				W	24	1:36 -0.2	8:07 8.1	14:45 -0.6	20:28 7.5		F	24	2:34 0.0	8:40 8.2	15:25 -0.8	21:16 7.3										
	M	25	1:25 -0.2	7:34 7.6	14:01 -0.2	20:00 7.5				P Th	25	2:50 -0.1	9:01 8.5	15:39 -1.1	21:32 7.7		S	25	3:28 -0.2	9:33 8.4	16:16 -1.1	22:20 7.4										
	Tu	26	2:24 -0.5	8:30 8.1	15:01 -0.8	20:59 7.9				F	26	3:44 -0.6	9:50 8.7	16:29 -1.4	22:24 7.9		S	26	4:21 -0.3	10:26 8.4	17:05 -1.2	23:02 7.5										
	W	27	3:15 -0.8	9:23 8.6	15:52 -1.2	21:50 8.2				S	27	4:32 -0.7	10:40 8.8	17:16 -1.5	23:15 7.8		N M	27	5:14 -0.3	11:11 8.4	17:55 -1.2	23:51 7.5										
	Th	28	4:05 -1.0	10:11 8.9	16:42 -1.5	22:41 8.3				S	28	5:23 -0.6	11:30 8.7	18:05 -1.4			Tu	28	6:00 -0.2	12:01 8.2	18:41 -1.0											
	F	29	4:54 -1.1	11:00 9.1	17:30 -1.7	23:31 8.3				N M	29	0:05 7.7	6:11 -0.5	12:17 8.5	18:57 -1.2		W	29	0:41 7.4	6:54 -0.1	12:50 8.0	19:28 -0.8										
	S	30	5:39 -1.1	11:49 9.0	18:19 -1.6					Th	30	0:55 7.5	7:05 -0.1	13:08 8.1	19:16 -0.8		Th	30	1:26 7.3	7:45 0.1	13:35 7.6	20:13 -0.4										
S	31	0:20 8.1	6:28 -0.8	12:35 8.8	19:10 -1.3											F	31	2:15 7.1	8:34 0.1	14:21 7.2	21:01 0.0											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 9 is midnight, 12 is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.								W.	Mo.											
N O	F	1	3:40 4.5	10:15 0.1	16:06 4.0	22:22 -0.2				M	1	5:12 4.7	11:52 -0.1	18:00 3.8	23:52 0.0		N	M	1	3:54 4.2	10:38 0.3	16:54 8.6	22:45 0.3									
	S	2	4:35 4.8	11:12 -0.1	17:08 4.0	23:15 -0.2				N	Tu	2	6:04 4.8	12:42 -0.3	18:50 3.9			Tu	2	4:56 4.3	11:35 0.1	17:51 8.7	23:42 0.2									
	S	3	5:27 4.9	12:04 -0.3	18:06 4.1					W	3	0:42 -0.1	6:56 4.8	13:27 -0.4	19:34 3.9			W	3	5:48 4.4	12:24 -0.1	18:39 3.9										
	M	4	0:06 -0.3	6:15 5.1	12:54 -0.4	18:56 4.1				Th	4	1:27 -0.1	7:32 4.8	14:12 -0.4	20:12 4.0			Th	4	0:30 0.1	6:36 4.5	13:07 -0.2	19:18 4.0									
	Tu	5	0:55 -0.2	7:01 5.1	13:40 -0.5	19:43 4.1				O	F	5	2:09 0.0	8:10 4.8	14:45 -0.4	20:45 4.0			F	5	1:12 0.0	7:15 4.6	13:45 -0.2	19:48 4.1								
	W	6	1:40 -0.2	7:45 5.1	14:26 -0.5	20:27 4.0				S	6	2:47 0.1	8:44 4.7	15:20 -0.3	21:14 4.0			O	S	6	1:51 0.0	7:50 4.6	14:18 -0.2	20:16 4.2								
	Th	7	2:25 0.0	8:27 5.0	15:09 -0.4	21:07 3.9				S	7	3:24 0.2	9:17 4.6	15:55 -0.1	21:42 4.0			A	S	7	2:26 0.0	8:21 4.5	14:47 -0.2	20:40 4.3								
	F	8	3:06 0.2	9:07 4.8	15:50 -0.3	21:46 3.9				A	M	8	3:57 0.4	9:46 4.4	16:26 0.0	22:09 4.1			M	8	3:58 0.1	8:48 4.5	15:15 -0.1	21:08 4.4								
	S	9	3:50 0.4	9:43 4.5	16:30 -0.1	22:20 3.8				E	Tu	9	4:30 0.5	10:15 4.3	16:56 0.2	22:42 4.2			E	Tu	9	3:27 0.1	9:11 4.4	15:41 0.0	21:30 4.5							
	A	S	10	4:30 0.6	10:20 4.3	17:10 0.1	22:58 3.7			W	10	5:07 0.6	10:47 4.1	17:22 0.4	23:20 4.2			W	10	3:59 0.2	9:40 4.4	16:05 0.2	22:04 4.6									
	A E C	M	11	5:10 0.8	10:55 4.1	17:49 0.3	23:35 3.7			Th	11	5:50 0.7	11:25 4.0	18:00 0.5				Th	11	4:32 0.3	10:12 4.2	16:32 0.2	22:42 4.6									
Tu		12	5:56 0.9	11:32 3.9	18:26 0.5				F	12	0:06 4.2	6:40 0.8	12:10 3.8	18:40 0.6			F	12	5:10 0.3	10:50 4.1	17:08 0.4	23:27 4.5										
W		13	0:17 3.7	6:47 1.0	12:12 3.8	19:09 0.6			C	S	13	0:59 4.2	7:43 0.8	13:02 3.7	19:30 0.7			S	13	6:00 0.5	11:34 3.9	17:53 0.5										
Th		14	1:02 3.8	7:44 1.0	13:00 3.6	19:52 0.7				S	14	2:00 4.2	8:55 0.7	14:05 3.6	20:44 0.7			C	S	14	0:19 4.4	6:59 0.6	12:29 3.8	18:50 0.7								
F		15	1:56 4.0	8:45 0.9	13:53 3.5	20:40 0.6				M	15	3:07 4.3	10:04 0.5	15:20 3.6	21:56 0.6			M	15	1:19 4.3	8:17 0.7	13:34 3.6	20:05 0.8									
S		16	2:52 4.1	9:44 0.7	14:51 3.5	21:33 0.6			S	Tu	16	4:13 4.5	11:05 0.2	16:39 3.7	23:02 0.3			S	Tu	16	2:28 4.2	9:32 0.5	14:54 3.6	21:32 0.7								
S		17	3:48 4.4	10:39 0.5	15:55 3.6	22:28 0.4				W	17	5:14 4.7	11:59 -0.2	17:43 4.0				W	17	3:42 4.3	10:38 0.2	16:22 3.8	22:47 0.3									
M		18	4:42 4.6	11:32 0.2	16:59 3.8	23:19 0.2				Th	18	0:00 0.0	6:08 5.0	12:49 -0.5	18:40 4.4			Th	18	4:51 4.6	11:33 -0.2	17:30 4.2	23:48 -0.1									
Tu		19	5:32 4.9	12:20 -0.2	17:54 4.0					F	19	0:55 -0.3	7:01 5.3	13:35 -0.8	19:30 4.7			F	19	5:51 4.9	12:25 -0.6	18:24 4.6										
S		W	20	0:11 0.0	6:25 5.1	13:06 -0.5	18:48 4.2			P	S	20	1:44 -0.5	7:49 5.5	14:22 -1.0	20:19 4.9			S	20	0:42 -0.5	6:45 5.2	13:12 -0.9	19:14 5.0								
P E D		Th	21	1:01 -0.1	7:12 5.3	13:55 -0.7	19:40 4.4			E	S	21	2:35 -0.7	8:38 5.5	15:08 -1.1	21:05 5.1			P	S	21	1:32 -0.8	7:34 5.4	14:00 -1.1	20:00 5.3							
	F	22	1:53 -0.3	8:00 5.4	14:42 -0.8	20:30 4.6			E	M	22	3:24 -0.7	9:25 5.4	15:56 -1.0	21:54 5.1			E	M	22	2:21 -0.9	8:22 5.4	14:45 -1.1	20:45 5.4								
	S	23	2:45 -0.3	8:49 5.4	15:30 -0.9	21:20 4.7				Tu	23	4:16 -0.6	10:12 5.1	16:41 -0.8	22:43 5.0				Tu	23	3:10 -1.0	9:08 5.3	15:29 -1.0	21:32 5.4								
	S	24	3:35 -0.3	9:38 5.2	16:18 -0.8	22:12 4.7				W	24	5:09 -0.4	11:04 4.8	17:31 -0.4	23:35 4.8				W	24	4:00 -0.9	9:55 5.0	16:15 -0.7	22:20 5.2								
	M	25	4:30 -0.2	10:38 5.0	17:06 -0.7	23:07 4.6				Th	25	6:07 -0.1	11:58 4.3	18:26 -0.1				Th	25	4:50 -0.6	10:45 4.6	17:05 -0.3	23:10 4.9									
	Tu	26	5:28 -0.1	11:22 4.7	18:06 -0.4				C	F	26	0:33 4.6	7:10 0.1	13:02 3.9	19:29 0.2				F	26	5:45 -0.3	11:38 4.2	17:58 0.1									
	W	27	0:03 4.5	6:30 0.1	12:20 4.4	18:56 -0.2				S	27	1:40 4.4	8:22 0.3	14:18 3.6	20:35 0.4				S	27	0:04 4.6	6:46 0.0	12:42 3.8	19:00 0.4								
	Th	28	1:05 4.4	7:37 0.2	13:22 4.1	19:56 0.0				S	28	2:46 4.2	9:32 0.3	15:40 3.5	21:42 0.4			D	S	28	1:05 4.3	7:53 0.3	14:00 3.5	20:11 0.6								
	F	29	2:10 4.4	8:48 0.3	14:38 3.8	20:59 0.1													M	29	2:15 4.1	9:05 0.4	15:23 3.4	21:20 0.7								
	S	30	3:15 4.4	9:56 0.2	15:52 3.7	22:00 0.1													Tu	30	3:27 4.0	10:12 0.4	16:35 3.5	22:28 0.5								
	S	31	4:16 4.5	10:58 0.1	17:01 3.7	23:00 0.1													W	31	4:32 4.0	11:09 0.3	17:30 3.6	23:24 0.4								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.				
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.		
	W. Mo.					W. Mo.					W. Mo.			
A	Th 1	5:24	11:56	18:12	E	S 1	5:37	11:56	18:03	C	Tu 1	0:24	6:02	12:15
	F 2	4.1	0.1	3.8		S 2	3.8	0.2	4.0		W 2	0.3	3.6	0.8
	S 3	0:12	6:13	12:37		M 3	0:24	6:16	12:30		Th 3	1:02	6:31	12:50
	S 4	0.2	4.2	0.0		Tu 4	0.3	3.9	0.2		F 4	0.1	3.8	0.3
	M 5	0:52	6:52	13:12		W 5	1:00	6:49	13:01		S 5	1:40	7:12	13:25
E	Tu 6	0.1	4.3	-0.1	C	Th 6	0.2	4.0	0.1	S	F 4	-0.1	3.9	0.2
	W 7	1:28	7:23	13:42		F 7	1:32	7:12	13:31		M 7	2:20	7:51	14:00
	Th 8	0.0	4.3	-0.1		S 8	0.0	4.0	0.1		Th 8	-0.2	4.0	0.2
	F 9	2:01	7:53	14:10		M 10	2:06	7:45	13:57		W 9	3:00	8:35	14:40
	S 10	0.0	4.4	-0.1		Tu 11	-0.1	4.1	0.1		F 11	-0.3	4.1	0.2
C	Tu 11	2:32	8:17	14:35	S	W 12	2:40	8:15	14:25	C	S 6	3:43	9:17	15:25
	W 12	0.0	4.3	0.0		Th 13	-0.2	4.2	0.1		M 7	-0.3	4.2	0.2
	Th 13	3:02	8:40	15:00		F 14	3:15	8:47	14:58		Th 8	4:28	10:06	16:16
	F 14	0.0	4.3	0.1		S 15	-0.2	4.2	0.2		W 9	-0.3	4.2	0.3
	S 15	3:33	9:10	15:26		M 16	3:55	9:28	15:35		F 10	5:18	11:00	17:13
S	Tu 16	0.0	4.3	0.1	E	Tu 17	-0.2	4.2	0.2	N	Th 10	-0.2	4.2	0.4
	W 17	4:10	9:46	15:57		W 18	4:40	10:12	16:20		W 9	6:11	11:58	18:17
	Th 18	0.0	4.3	0.2		Th 19	-0.1	4.2	0.4		F 11	-0.2	4.1	0.5
	F 19	4:50	10:27	16:35		F 20	5:28	11:03	17:12		S 12	0:13	7:07	13:01
	S 20	0.1	4.2	0.4		S 21	0.0	4.1	0.5		Th 11	4.5	-0.1	4.1
C	Tu 21	5:38	11:15	17:24	P	Tu 22	6:24	12:00	18:17	E	F 12	1:16	8:06	14:10
	W 22	0.2	4.0	0.5		W 23	0.1	3.9	0.7		S 13	4.3	0.0	4.2
	Th 23	6:37	12:10	18:24		Th 24	0:27	7:27	13:10		Th 12	2:25	9:08	15:17
	F 24	0.4	3.8	0.7		F 25	4.4	0.2	3.9		W 13	4.1	0.0	4.4
	S 25	0:48	7:46	13:17	P	S 26	1:35	8:33	14:28		Th 14	3:35	10:07	16:18
S	Tu 26	4.3	0.5	3.7		Th 27	4.2	0.2	3.9	N	M 14	4.1	-0.1	4.6
	W 27	1:56	9:00	14:40		F 28	2:50	9:37	15:42		Th 15	4:42	11:01	17:15
	Th 28	4.2	0.4	3.7		S 29	4.2	0.1	4.2		W 16	4.1	-0.2	4.9
	F 29	3:16	10:08	16:04		M 30	4:04	10:35	16:45		Th 17	5:44	11:56	18:07
	S 30	4.2	0.2	3.9		Tu 31	4.3	-0.2	4.6		W 18	4.2	-0.4	5.1
C	Tu 31	4:28	11:06	17:10	E	W 32	5:08	11:30	17:39	C	F 18	0:44	6:42	12:48
	W 32	4.4	-0.2	4.4		Th 33	4.4	-0.4	4.9		S 19	-0.5	4.3	-0.4
	Th 33	5:31	11:58	18:08		F 34	0:09	6:04	12:22		Th 20	1:35	7:35	13:38
	F 34	4.7	-0.5	4.8		S 35	-0.4	4.6	-0.6		W 21	-0.7	4.3	-0.4
	S 35	0:27	6:25	12:47	P	Tu 36	-0.1	6:37	13:10	N	F 19	2:24	8:27	14:27
S	Tu 36	-0.5	5.0	-0.8		W 37	-0.7	4.7	-0.7		S 20	-0.7	4.3	-0.3
	W 37	1:16	7:16	13:35		Th 38	1:50	7:49	13:56		Th 21	3:14	9:15	15:16
	Th 38	-0.8	5.1	-1.0		F 39	-0.9	4.7	-0.7		W 22	-0.7	4.2	0.1
	F 39	-1.0	5.1	-1.0		S 40	2:38	8:38	14:45		Th 23	4:00	10:04	16:05
C	S 40	-1.0	5.1	-1.0	E	Tu 41	-1.0	4.6	-0.6	N	W 24	-0.6	4.1	0.1
	Tu 41	2:05	8:05	14:20		W 42	3:27	9:27	15:34		Th 25	4:47	10:51	16:54
	W 42	-1.1	5.0	-0.8		Th 43	-0.9	4.5	-0.3		W 26	-0.5	4.0	0.3
	Th 43	3:42	9:40	15:52		F 44	4:18	10:18	16:25		Th 27	5:32	11:37	17:43
	F 44	-1.0	4.8	-0.5		S 45	-0.7	4.2	0.0		W 28	-0.3	3.8	0.5
S	S 45	4:32	10:28	16:40	E	Tu 46	5:08	11:10	17:15	C	Th 29	6:20	12:22	18:35
	Tu 46	-0.7	4.4	-0.2		W 47	-0.5	4.0	0.3		W 29	0.0	3.7	0.7
	W 47	5:26	11:22	17:35		Th 48	-0.2	3.7	0.6		Th 30	0:14	7:05	13:10
	Th 48	-0.4	4.1	0.2		F 49	0:02	6:54	13:04		W 31	4.0	0.2	3.6
	F 49	6:23	12:25	18:35		S 50	4.2	0.1	3.5		Th 32	0:58	7:50	13:52
C	S 50	-0.1	3.7	0.6	P	Tu 51	0:59	7:50	14:05	E	F 25	3.7	0.4	3.6
	Tu 51	0:35	7:26	13:38		W 52	3.9	0.3	3.5		S 26	1:42	8:35	14:37
	W 52	4.2	0.2	3.6		Th 53	3.7	0.4	3.5		Th 28	3.5	0.6	3.7
	Th 53	1:39	8:31	14:50		F 54	2:00	8:45	15:00		W 30	2:29	9:18	15:28
	F 54	3.9	0.4	3.4		S 55	3.7	0.4	3.5		Th 31	3.4	0.6	3.9
S	Tu 55	2:47	9:32	15:58	E	Tu 56	3:00	9:34	15:50	C	M 28	3:20	10:00	16:10
	W 56	3.8	0.4	3.5		W 57	3.5	0.5	3.6		Th 29	3.3	0.7	4.1
	Th 57	3:54	10:28	16:50		Th 58	3:55	10:21	16:32		W 30	4:15	10:45	16:56
	F 58	3.8	0.4	3.6		F 59	3.6	0.5	3.8		Th 31	3.3	0.6	4.3
	S 59	4:50	11:15	17:29		S 60	4:45	11:02	17:10		W 32	5:05	11:29	17:40
C	Tu 60	3.8	0.3	3.8	E	Th 61	3.5	0.5	4.0	N	Th 32	3.5	0.5	4.5
	W 61					F 62	5:25	11:40	17:45					
	Th 62					S 63	3.5	0.4	4.3					
	F 63					Tu 64								
	S 64					W 65								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
☾	Th	1	0:33	5:54	12:12	18:25	○	S	1	1:37	7:20	13:34	19:40	P	W	1	2:44	8:41	15:00	21:01
			0.2	3.6	0.4	4.8				-0.4	4.1	-0.1	5.1			-0.9	5.0	-0.6	5.3	
	F	2	1:14	6:47	13:00	19:11		M	2	2:24	8:11	14:25	20:30	E	Th	2	3:30	9:30	15:53	21:50
			0.0	3.8	0.2	4.9				-0.6	4.4	-0.2	5.2			-0.9	5.1	-0.6	5.1	
	S	3	2:00	7:38	13:45	19:57	P	Tu	3	3:08	9:00	15:17	21:18		F	3	4:17	10:20	16:46	22:40
☾			-0.3	4.0	0.1	5.1				-0.8	4.6	-0.3	5.2			-0.7	5.1	-0.5	4.9	
	S	4	2:45	8:22	14:34	20:43		W	4	3:56	9:50	16:08	22:08		S	4	5:05	11:10	17:42	23:32
			-0.4	4.2	0.1	5.2				-0.8	4.7	-0.4	5.1			-0.6	5.0	-0.3	4.5	
	M	5	3:30	9:12	15:23	21:30	E	Th	5	4:43	10:40	17:02	22:58	☾	S	5	5:59	12:05	18:41	...
			-0.5	4.3	0.0	5.1				-0.7	4.8	-0.2	4.9			-0.2	4.8	-0.1	...	
☾	Tu	6	4:17	10:02	16:15	22:20		F	6	5:31	11:34	17:57	23:48	☾	M	6	6:31	6:56	13:05	19:45
			-0.6	4.4	0.1	5.0				-0.6	4.7	-0.1	4.6			4.1	0.0	4.6	0.1	
	W	7	5:05	10:55	17:11	23:09		S	7	6:22	12:27	18:59	...		Tu	7	1:39	7:58	14:08	20:53
			-0.5	4.4	0.1	4.8				-0.4	4.7	0.1	...			3.8	0.3	4.4	0.2	
	Th	8	5:58	11:55	18:11	...	☾	S	8	7:16	13:26	20:02	...	N	W	8	2:55	9:05	15:15	22:00
☾			-0.4	4.4	0.2	...				4.3	-0.1	4.6	0.2			3.6	0.4	4.3	0.2	
	F	9	6:02	6:45	12:48	19:15		M	9	1:46	8:16	14:28	21:10		Th	9	4:09	10:10	16:20	23:00
			4.6	-0.3	4.4	0.3				4.0	0.1	4.5	0.2			3.6	0.3	4.3	0.1	
	S	10	6:59	7:40	13:49	20:22		Tu	10	2:59	9:17	15:32	22:17		F	10	5:05	11:10	17:18	23:56
			4.3	-0.1	4.4	0.3				3.7	0.2	4.5	0.2			3.7	0.2	4.4	0.0	
☾	S	11	2:04	8:39	14:52	21:28		W	11	4:15	10:22	16:35	23:19		S	11	6:03	12:04	18:10	...
			4.1	0.0	4.5	0.2				3.6	0.2	4.5	0.1			3.8	0.1	4.5	...	
	M	12	3:12	9:40	15:58	22:38	N	Th	12	5:23	11:22	17:38	...		S	12	6:42	6:53	12:52	18:55
			3.9	0.0	4.6	0.1				3.7	0.1	4.6	...			-0.1	4.0	0.0	4.5	
	Tu	13	4:22	10:38	16:53	23:34		F	13	6:16	6:28	12:17	18:26		M	13	1:24	7:30	13:35	19:35
☾			3.8	0.0	4.7	-0.1				-0.1	3.8	0.0	4.7			-0.2	4.1	0.0	4.5	
	W	14	5:30	11:36	17:48	...		S	14	1:05	7:13	13:09	19:15	●	Tu	14	2:01	8:02	14:15	20:11
			3.8	-0.1	4.9	...				-0.2	3.9	-0.1	4.8			-0.2	4.2	0.0	4.5	
	Th	15	6:30	6:32	12:31	18:41	●	S	15	1:50	7:58	13:55	19:58		W	15	2:35	8:32	14:50	20:43
			-0.3	3.9	-0.1	5.0				-0.4	4.0	-0.1	4.8			-0.2	4.2	0.1	4.4	
☾	F	16	1:20	7:25	13:22	19:30		M	16	2:32	8:38	14:38	20:38	E	Th	16	3:07	9:00	15:25	21:11
			-0.4	4.0	-0.2	5.0				-0.4	4.1	0.0	4.7			0.0	4.3	0.2	4.2	
	S	17	2:10	8:15	14:12	20:16		Tu	17	3:11	9:11	15:20	21:16		F	17	3:35	9:27	15:59	21:35
			-0.5	4.1	-0.2	5.0				-0.3	4.1	0.1	4.6			0.1	4.4	0.2	4.1	
	S	18	2:56	9:00	14:59	21:00		W	18	3:48	9:44	15:58	21:50		S	18	4:00	9:57	16:34	22:05
☾			-0.6	4.1	-0.1	4.9				-0.2	4.1	0.2	4.4			0.3	4.4	0.3	4.0	
	M	19	3:39	9:42	15:45	21:42	A	Th	19	4:22	10:12	16:35	22:18		S	19	4:28	10:33	17:11	22:41
			-0.5	4.1	0.1	4.7	E			-0.1	4.1	0.4	4.2			0.4	4.5	0.4	4.0	
	Tu	20	4:20	10:23	16:28	22:22		F	20	4:53	10:43	17:12	22:48		M	20	5:00	11:14	17:54	23:21
			-0.4	4.0	0.2	4.5				0.1	4.2	0.5	4.1			0.5	4.5	0.5	3.8	
☾	W	21	5:00	11:00	17:10	22:59		S	21	5:21	11:16	17:51	23:18		Tu	21	5:40	12:01	18:46	...
			-0.2	4.0	0.5	4.3				0.3	4.2	0.6	3.9			0.6	4.4	0.6	...	
	Th	22	5:40	11:35	17:58	23:31		S	22	5:52	11:55	18:32	23:55	☾	W	22	6:12	6:30	12:55	19:50
			0.0	3.9	0.6	4.1				0.5	4.2	0.7	3.8			3.7	0.7	4.3	0.6	
	F	23	6:16	12:08	18:36	...	☾	M	23	6:25	12:40	19:23	...	S	Th	23	1:10	7:35	13:57	20:57
☾			0.2	3.9	0.8	...				0.6	4.2	0.8	...			3.7	0.8	4.3	0.5	
	S	24	6:03	6:51	12:47	19:22		Tu	24	6:40	7:10	13:31	20:25		F	24	2:20	8:52	15:05	22:00
			3.9	0.4	3.9	0.9				3.7	0.7	4.2	0.8			3.7	0.7	4.3	0.3	
	S	25	6:38	7:28	13:30	20:15		W	25	1:35	8:06	14:31	21:29		S	25	3:36	10:08	16:12	23:00
			3.7	0.6	4.0	0.9				3.6	0.8	4.3	0.7			3.8	0.5	4.5	0.0	
☾	M	26	1:22	8:08	14:20	21:12		Th	26	2:38	9:12	15:35	22:31		S	26	4:47	11:12	17:13	23:52
			3.5	0.7	4.1	0.9				3.5	0.7	4.3	0.5			4.1	0.1	4.7	-0.3	
	Tu	27	2:13	8:55	15:15	22:12	S	F	27	3:52	10:22	16:37	23:28		M	27	5:48	12:10	18:10	...
			3.5	0.7	4.2	0.7				3.6	0.6	4.5	0.2			4.5	-0.2	5.0	...	
	W	28	3:13	9:50	16:11	23:12		S	28	5:03	11:28	17:36	...		Tu	28	6:41	6:40	13:02	19:02
☾			3.4	0.7	4.4	0.5				3.8	0.3	4.7	...			-0.6	4.3	-0.5	5.1	
	Th	29	4:19	10:49	17:07	23:59		S	29	6:21	6:06	12:27	18:32	☾	W	29	1:28	7:30	13:54	19:53
			3.5	0.6	4.5	0.2				-0.2	4.1	0.0	5.0			-0.8	5.2	-0.8	5.2	
	F	30	5:24	11:47	18:00	...		M	30	1:10	7:01	13:20	19:24		Th	30	2:15	8:17	14:44	20:41
			3.6	0.4	4.8	...				-0.5	4.4	-0.3	5.2			-0.9	5.3	-0.9	5.2	
☾	S	31	6:48	6:24	12:42	18:52	○	Tu	31	1:57	7:58	14:10	20:14	☾						
			-0.1	3.9	0.1	5.0				-0.7	4.8	-0.5	5.3							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	3:02 -0.9	9:06 5.4	15:34 -0.8	21:30 5.0	M	M	1	4:18 -0.2	10:22 5.1	17:05 -0.5	23:04 4.1	C	W	1	4:52 0.2	10:52 4.7	17:40 -0.3	23:50 3.8												
	S	2	3:50 -0.7	9:55 5.3	16:27 -0.7	22:22 4.7		Tu	2	5:15 0.1	11:18 4.8	18:04 -0.3	Th		2	5:58 0.4	11:52 4.4	18:37 -0.1														
	S	3	4:40 -0.4	10:46 5.1	17:23 -0.5	23:19 4.3		W	3	5:11 8.9	6:18 0.4	12:17 4.4	19:05 -0.1		F	3	5:52 8.7	6:59 0.6	12:50 4.1	19:34 0.1												
	M	4	5:35 0.0	11:42 4.8	18:22 -0.2			Th	4	1:20 8.7	7:26 0.5	13:24 4.2	20:08 0.1		S	4	1:55 8.7	8:08 0.7	13:50 3.9	20:30 0.2												
	Tu	5	6:21 4.0	6:37 0.2	12:41 4.5	19:28 0.0		F	5	2:30 8.7	8:38 0.6	14:32 4.0	21:09 0.1		S	5	2:50 8.7	9:05 0.7	14:58 3.7	21:20 0.2												
	W	6	1:33 3.7	7:43 0.4	13:48 4.3	20:35 0.1		S	6	3:32 3.7	9:37 0.5	15:33 4.0	22:02 0.1		M	6	3:41 3.8	10:01 0.6	15:47 3.7	22:06 0.3												
	Th	7	2:48 3.6	8:52 0.5	14:56 4.2	21:38 0.2		S	7	4:26 3.8	10:32 0.4	16:28 4.0	22:50 0.1		Tu	7	4:24 4.0	10:50 0.5	16:35 3.6	22:50 0.3												
	F	8	4:00 3.7	9:58 0.4	16:02 4.2	22:36 0.1		M	8	5:08 4.0	11:22 0.8	17:17 4.0	23:23 0.1		W	8	5:00 4.1	11:33 0.4	17:15 3.6	23:25 0.3												
	S	9	4:57 3.8	10:55 0.3	16:57 4.2	23:28 0.0		Tu	9	5:43 4.2	12:05 0.2	17:56 3.9			Th	9	5:35 4.3	12:11 0.3	17:52 3.6													
	S	10	5:43 3.9	11:46 0.2	17:46 4.2			W	10	6:09 0.1	6:15 4.3	12:42 0.2	18:31 3.9		F	10	6:00 0.3	6:05 4.5	12:46 0.2	18:20 3.6												
	M	11	6:10 0.0	6:21 4.1	12:31 0.1	18:30 4.2		Th	11	6:41 0.1	6:48 4.4	13:16 0.1	19:00 3.9		S	11	6:31 0.3	6:40 4.7	13:23 0.0	18:50 3.7												
E A	Tu	12	6:49 -0.1	6:55 4.2	13:10 0.1	19:05 4.2	S	F	12	1:11 0.2	7:12 4.6	13:50 0.0	19:25 3.9	S	S	12	1:02 0.3	7:12 4.8	14:01 -0.1	19:25 3.9												
	W	13	1:23 -0.1	7:24 4.3	13:46 0.1	19:38 4.2		S	13	1:38 0.3	7:40 4.7	14:25 0.0	19:52 4.0		M	13	1:38 0.3	7:49 4.9	14:40 -0.1	20:05 4.0												
	Th	14	1:53 0.0	7:50 4.4	14:19 0.1	20:05 4.1		S	14	2:02 0.3	8:13 4.8	15:00 0.0	20:25 4.0		Tu	14	2:12 0.3	8:28 5.0	15:20 -0.2	20:48 4.0												
	F	15	2:20 0.1	8:17 4.5	14:55 0.1	20:28 4.1		M	15	2:32 0.4	8:49 4.8	15:38 0.0	21:05 4.0		W	15	2:55 0.8	9:12 4.9	16:05 -0.2	21:37 4.1												
	S	16	2:46 0.3	8:47 4.6	15:25 0.1	20:56 4.0		Tu	16	3:11 0.5	9:30 4.8	16:21 0.1	21:50 4.0		Th	16	3:45 0.4	9:58 4.8	16:52 -0.1	22:29 4.1												
	S	17	3:11 0.4	9:20 4.7	16:02 0.2	21:30 4.0		W	17	3:55 0.5	10:15 4.7	17:10 0.1	22:40 3.9		F	17	4:42 0.5	10:49 4.6	17:44 -0.1	23:28 4.1												
	M	18	3:42 0.5	9:57 4.6	16:42 0.2	22:11 3.9		Th	18	4:48 0.7	11:06 4.5	18:05 0.2	23:40 3.9		S	18	5:45 0.6	11:44 4.4	18:40 0.0													
	Tu	19	4:20 0.6	10:40 4.6	17:28 0.3	22:58 3.9		F	19	5:52 0.7	12:02 4.4	19:05 0.2			S	19	6:38 4.1	12:45 0.6	19:38 4.3	0.1												
	W	20	5:05 0.7	11:30 4.5	18:22 0.4	23:51 3.8		S	20	6:47 3.9	7:10 0.7	18:07 4.2	20:05 0.2		M	20	1:40 4.2	8:11 0.5	18:52 4.1	20:38 0.0												
	Th	21	6:03 0.8	12:26 4.3	19:26 0.4			S	21	2:00 4.0	8:30 0.6	14:16 4.2	21:04 0.1		Tu	21	2:46 4.4	9:20 0.8	15:00 4.1	21:35 -0.1												
	D	F	22	6:57 3.7	7:18 0.8	13:30 4.2		20:32 0.3	E	M	22	3:09 4.2	9:40 0.8		15:27 4.3	22:02 -0.2	W	22	3:48 4.7	10:23 0.0	16:16 4.1	22:31 -0.3										
S		23	2:10 3.8	8:42 0.7	14:40 4.2	21:33 0.1	Tu	23		4:10 4.6	10:40 0.0	16:30 4.4	22:55 -0.4	Th	23	4:45 5.0	11:20 -0.3	17:10 4.2	23:26 -0.4													
S		24	3:27 4.0	9:55 0.4	15:50 4.4	22:30 -0.1	W	24		5:05 5.0	11:35 -0.4	17:26 4.5	23:47 -0.6	F	24	5:37 5.2	12:14 -0.5	18:08 4.3														
M		25	4:31 4.4	10:58 0.0	16:52 4.6	23:22 -0.4	Th	25		5:55 5.3	12:27 -0.7	18:20 4.6		S	25	6:17 -0.5	6:28 5.4	13:06 -0.7	19:00 4.4													
Tu		26	5:26 4.8	11:52 -0.4	17:48 4.8		F	26		6:36 -0.7	6:45 5.5	18:20 -0.9	19:18 4.7	S	26	1:08 -0.5	7:11 5.5	13:56 -0.8	19:54 4.4													
W		27	6:12 -0.7	6:17 5.2	12:45 -0.7	18:40 5.0	S	27		1:25 -0.7	7:33 5.6	14:09 -0.9	20:04 4.6	M	27	1:59 -0.4	8:05 5.4	14:45 -0.8	20:45 4.3													
Th		28	1:00 -0.8	7:05 5.4	13:35 -0.9	19:30 5.0	S	28		2:12 -0.5	8:20 5.5	15:00 -0.9	20:56 4.5	Tu	28	2:48 -0.3	8:53 5.2	15:34 -0.7	21:37 4.2													
F		29	1:47 -0.8	7:54 5.6	14:25 -1.0	20:20 4.9	M	29		3:04 -0.4	9:10 5.8	15:52 -0.8	21:50 4.3	W	29	3:40 -0.1	9:40 5.0	16:23 -0.6	22:26 4.1													
S		30	2:36 -0.7	8:42 5.6	15:16 -0.9	21:11 4.7	Tu	30		3:57 -0.1	10:00 5.0	16:45 -0.6	22:48 4.0	Th	30	4:30 0.2	10:30 4.7	17:12 -0.4	23:18 3.9													
S		31	3:25 -0.5	9:32 5.4	16:10 -0.8	22:05 4.4								F	31	5:25 0.4	11:17 4.4	18:00 -0.1														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian, West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A	Th	1	4:45	11:10	17:30	23:30				S	1	5:00	11:10	17:28	23:40				Tu	1	5:42	11:40	17:58						
	F	2	5:35	11:55	18:10				E	S	2	5:42	11:48	18:02				W	2	0:24	6:24	12:17	18:40						
	S	3	0:14	6:18	12:32	18:45				M	3	0:20	6:22	12:23	18:38				Th	3	1:04	7:04	12:55	19:20					
	S	4	0:53	6:55	13:05	19:15				Tu	4	0:55	6:58	12:55	19:10				F	4	1:45	7:45	13:36	20:04					
	M	5	1:26	7:30	13:36	19:45				W	5	1:32	7:33	13:28	19:45				S	5	2:30	8:26	14:20	20:46					
E	Tu	6	2:00	8:00	14:05	20:16				Th	6	2:08	8:06	14:00	20:22				S	6	3:15	9:12	15:05	21:35					
	W	7	2:32	8:35	14:34	20:50				F	7	2:47	8:42	14:36	21:04				M	7	4:00	10:04	15:55	22:25					
	Th	8	3:08	9:05	15:04	21:25				S	8	3:30	9:23	15:12	21:46				Tu	8	4:50	11:00	16:50	23:18					
	F	9	3:45	9:40	15:36	22:05				S	S	9	4:14	10:10	16:00	22:35				W	9	5:43	12:00	17:55					
	S	10	4:28	10:20	16:15	22:50				M	10	5:05	11:04	16:54	23:28				Th	10	0:14	6:38	13:00	19:05					
P	S	11	5:15	11:08	17:05	23:44				Tu	11	6:00	12:05	18:00				F	11	1:15	7:35	14:03	20:14						
	M	12	6:14	12:10	18:06				W	12	0:29	7:00	13:16	19:16				S	12	2:20	8:36	15:00	21:20						
	Tu	13	0:45	7:17	13:25	19:22				Th	13	1:36	8:02	14:25	20:32				S	13	3:28	9:35	15:57	22:22					
	W	14	1:55	8:24	14:40	20:48				F	14	2:44	9:03	15:28	21:40				M	14	4:26	10:30	16:52	23:18					
	Th	15	3:05	9:30	15:48	21:57				S	15	3:48	10:02	16:24	22:40				Tu	15	5:24	11:25	17:43						
E	F	16	4:08	10:28	16:45	22:58				S	S	16	4:48	10:57	17:15	23:35				W	16	0:12	6:18	12:16	18:30				
	S	17	5:08	11:22	17:38	23:54				M	17	5:42	11:48	18:04				Th	17	1:00	7:10	13:05	19:20						
	S	18	6:00	12:12	18:28					Tu	18	0:25	6:34	12:37	18:50				F	18	1:50	8:00	13:52	20:06					
	M	19	0:45	6:52	13:00	19:15				W	19	1:15	7:24	13:25	19:40				S	19	2:35	8:46	14:40	20:52					
	Tu	20	1:32	7:40	13:47	20:00				Th	20	2:04	8:12	14:10	20:25				S	20	3:20	9:35	15:26	21:36					
P	W	21	2:20	8:30	14:32	20:45				F	21	2:50	9:02	14:58	21:12				M	21	4:05	10:20	16:10	22:22					
	Th	22	3:08	9:20	15:20	21:35				S	22	3:40	9:52	15:45	22:00				Tu	22	4:50	11:08	16:56	23:06					
	F	23	3:58	10:10	16:05	22:24				S	23	4:26	10:44	16:34	22:48				W	23	5:34	11:52	17:47	23:54					
	S	24	4:48	11:00	16:56	23:15				M	24	5:18	11:40	17:28	23:40				Th	24	6:18	12:40	18:38						
	S	25	5:42	12:00	17:52					Tu	25	6:16	12:35	18:27					F	25	0:40	7:02	13:28	19:32					
N	M	26	0:10	6:40	13:05	18:56				W	26	0:35	7:03	13:30	19:28				S	26	1:30	7:48	14:16	20:28					
	Tu	27	1:10	7:40	14:10	20:08				Th	27	1:30	7:55	14:26	20:30				S	27	2:22	8:36	15:04	21:22					
	W	28	2:15	8:40	15:10	21:14				F	28	2:28	8:46	15:14	21:25				M	28	3:17	9:25	15:50	22:14					
	Th	29	3:15	9:40	16:05	22:10				S	29	3:25	9:35	16:00	22:15				Tu	29	4:10	10:12	16:37	23:05					
	F	30	4:10	10:28	16:48	23:00				S	30	4:15	10:20	16:40	23:00				W	30	5:04	11:00	17:25	23:52					
A			4.1	0.5	4.1	0.7				M	31	5:00	11:00	17:20	23:43														
													3.9	0.4	4.6	0.4													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ♀, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
S	Th	1	5:50 3.9	11:45 0.3	18:10 5.1					○	S	1	1:06 -0.4	7:10 4.5	13:08 -0.1	19:27 5.5				P	W	1	2:17 -1.0	8:23 5.4	14:32 -0.7	20:43 5.6			
	F	2	0:40 0.0	6:40 4.1	12:34 0.2	18:58 5.3					M	2	1:52 -0.7	7:58 4.8	14:00 -0.3	20:15 5.6				E	Th	2	2:58 -1.0	9:10 5.5	15:22 -0.7	21:32 5.4			
	S	3	1:25 -0.3	7:27 4.3	13:20 0.1	19:44 5.4				P	Tu	3	2:38 -0.8	8:46 5.0	14:50 -0.4	21:05 5.5					F	3	3:44 -0.8	9:59 5.5	16:12 -0.6	22:21 5.1			
	S	4	2:10 -0.4	8:14 4.4	14:10 0.0	20:32 5.4					W	4	3:25 -0.8	9:35 5.1	15:40 -0.3	21:50 5.3					S	4	4:31 -0.5	10:48 5.3	17:04 -0.3	23:13 4.8			
	M	5	3:00 -0.5	9:04 4.5	15:00 0.0	21:20 5.3				E	Th	5	4:10 -0.7	10:25 5.1	16:30 -0.2	22:42 5.1					S	5	5:22 -0.2	11:42 5.0	18:00 0.0				
P	Tu	6	3:45 -0.5	9:54 4.6	15:50 0.1	22:10 5.1					F	6	5:00 -0.5	11:17 5.1	17:26 -0.1	23:35 4.8				☾	M	6	0:10 4.4	6:16 0.1	12:39 4.8	19:02 0.2			
	W	7	4:24 -0.5	10:46 4.6	16:45 0.2	23:00 4.9					S	7	5:50 -0.3	12:10 5.0	18:24 0.1						Tu	7	1:15 4.0	7:18 0.3	13:40 4.6	20:10 0.4			
	Th	8	5:23 -0.4	11:40 4.6	17:45 0.3	23:55 4.7				☾	S	8	0:32 4.4	6:44 0.0	13:08 4.8	19:28 0.3				N	W	8	2:30 3.8	8:27 0.6	14:47 4.5	21:20 0.5			
	F	9	6:15 -0.2	12:37 4.7	18:46 0.4						M	9	1:36 4.1	7:42 0.2	14:10 4.7	20:35 0.4					Th	9	3:41 3.8	9:35 0.6	15:50 4.5	22:25 0.4			
	S	10	0:54 4.4	7:10 0.0	13:36 4.7	19:50 0.4					Tu	10	2:45 4.0	8:48 0.3	15:10 4.7	21:44 0.4					F	10	4:44 3.9	10:38 0.5	16:49 4.6	23:20 0.2			
C	S	11	1:58 4.3	8:09 0.0	14:35 4.8	20:56 0.3					W	11	3:55 3.9	9:50 0.3	16:10 4.7	22:48 0.3					S	11	5:38 4.1	11:34 0.4	17:42 4.7				
	M	12	3:05 4.2	9:10 0.1	15:35 4.8	22:00 0.2				N	Th	12	4:58 4.0	10:54 0.3	17:08 4.9	23:44 0.2					S	12	0:07 0.1	6:23 4.2	12:22 0.2	18:28 4.8			
	Tu	13	4:08 4.1	10:08 0.0	16:30 5.0	23:02 0.1					F	13	5:55 4.1	11:50 0.2	18:00 5.0						M	13	0:48 -0.1	7:03 4.4	13:05 0.1	19:10 4.8			
	W	14	5:10 4.2	11:05 0.0	17:24 5.2	23:58 -0.1					S	14	0:32 0.0	6:45 4.2	12:40 0.1	18:48 5.1				●	Tu	14	1:27 -0.1	7:39 4.5	13:43 0.1	19:48 4.7			
	Th	15	6:05 4.3	12:00 -0.1	18:15 5.3				●		S	15	1:15 -0.2	7:28 4.3	13:25 0.1	19:32 5.1					W	15	2:00 0.0	8:10 4.6	14:18 0.1	20:22 4.6			
N	F	16	0:48 -0.2	6:57 4.3	12:50 -0.1	19:04 5.3					M	16	1:56 -0.2	8:08 4.4	14:06 0.1	20:14 5.0				E	Th	16	2:32 0.0	8:40 4.6	14:49 0.2	20:53 4.4			
	S	17	1:34 -0.3	7:45 4.3	13:38 0.0	19:48 5.3			●		Tu	17	2:34 -0.2	8:45 4.4	14:45 0.2	20:50 4.8				A	F	17	3:00 0.2	9:10 4.6	15:22 0.3	21:22 4.3			
	S	18	2:18 -0.8	8:30 4.4	14:22 0.1	20:32 5.2					W	18	3:08 -0.1	9:20 4.4	15:20 0.4	21:25 4.6					S	18	3:25 0.3	9:40 4.5	15:55 0.3	21:51 4.1			
	M	19	3:00 -0.3	9:12 4.3	15:06 0.3	21:15 5.0				A	Th	19	3:40 0.1	9:50 4.4	15:54 0.5	22:00 4.3					S	19	3:52 0.5	10:15 4.4	16:32 0.4	22:24 3.9			
	Tu	20	3:40 -0.2	9:54 4.2	15:45 0.5	21:55 4.7				E	F	20	4:12 0.3	10:24 4.3	16:28 0.6	22:28 4.1					M	20	4:28 0.6	10:53 4.4	17:14 0.5	23:02 3.8			
A	W	21	4:18 0.0	10:30 4.1	16:25 0.7	22:35 4.4					S	21	4:40 0.5	10:58 4.3	17:05 0.7	23:02 3.9					Tu	21	5:02 0.7	11:42 4.3	18:07 0.6	23:53 3.6			
	Th	22	4:55 0.2	11:10 4.1	17:05 0.8	23:10 4.1					S	22	5:10 0.6	11:36 4.2	17:47 0.8	23:40 3.7				☾	W	22	5:52 0.9	12:39 4.2	19:07 0.7				
	F	23	5:39 0.5	11:48 4.1	17:48 0.9	23:46 3.8				☾	M	23	5:50 0.8	12:22 4.2	18:39 0.8					S	Th	23	1:00 3.5	6:59 1.0	13:45 4.2	20:15 0.6			
	S	24	6:08 0.6	12:30 4.0	18:35 1.0						Tu	24	0:27 3.6	6:35 0.9	13:18 4.2	19:41 0.9					F	24	2:19 3.6	8:20 0.9	14:55 4.3	21:23 0.4			
	S	25	0:08 3.6	6:47 0.7	13:17 4.1	19:28 1.0					W	25	1:28 3.5	7:36 0.9	14:22 4.2	20:50 0.8					S	25	3:34 3.9	9:37 0.6	16:00 4.6	22:25 0.1			
D	M	26	1:20 3.5	7:32 0.8	14:08 4.1	20:26 1.0					Th	26	2:45 3.5	8:50 0.8	15:25 4.4	21:54 0.6					S	26	4:38 4.8	10:44 0.2	16:59 4.9	23:20 -0.3			
	Tu	27	2:15 3.5	8:25 0.8	15:05 4.3	21:28 0.8				S	F	27	3:58 3.7	9:57 0.6	16:25 4.7	22:53 0.2					M	27	5:34 4.8	11:42 -0.2	17:54 5.2				
	W	28	3:22 3.5	9:25 0.7	16:00 4.5	22:28 0.6					S	28	5:00 4.0	11:02 0.3	17:28 5.0	23:48 -0.2					Tu	28	0:11 -0.6	6:23 5.2	12:36 -0.6	18:45 5.4			
	Th	29	4:25 3.6	10:25 0.5	16:55 4.8	23:24 0.2					S	29	5:57 4.5	12:00 -0.1	18:15 5.3					☾	W	29	1:00 -0.8	7:12 5.5	13:25 -0.8	19:35 5.5			
	F	30	5:24 3.9	11:22 0.3	17:48 5.1						M	30	0:38 -0.6	6:48 4.9	12:53 -0.4	19:08 5.5				P	Th	30	1:45 -1.0	7:58 5.7	14:14 -1.0	20:23 5.5			
S	S	31	0:14 -0.1	6:20 4.2	12:16 0.1	18:38 5.3				○	Tu	31	1:26 -0.8	7:36 5.2	13:43 -0.6	19:55 5.6													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.							W.		Mo.							W.	Mo.											
N	F	1	2:31 -0.9	8:45 5.8	15:02 -0.9	21:11 5.3				M	1	3:42 -0.2	10:00 5.5	16:24 -0.5	22:38 4.5					W	1	4:14 0.2	10:29 5.1	16:57 -0.2	23:16 4.2					
	S	2	3:18 -0.7	9:33 5.6	15:52 -0.7	22:01 5.0			N	Tu	4:38 0.1	10:51 5.1	17:18 -0.2	23:36 4.2					Th	2	5:18 0.6	11:20 4.7	17:50 0.0							
	S	3	4:05 -0.4	10:23 5.4	16:43 -0.5	22:55 4.7				W	3	5:28 0.5	11:46 4.7	18:15 0.1					F	3	6:14 4.0	12:15 0.8	18:40 4.4	23:40 0.2						
	M	4	4:56 0.0	11:15 5.1	17:40 -0.1	23:52 4.3			C	Th	6:38 4.0	12:47 0.8	19:15 4.4	24:15 0.3					S	4	7:08 3.9	13:11 1.0	19:35 4.1	24:35 0.4						
	Tu	5	5:52 0.3	12:13 4.8	18:40 0.2					F	5	7:45 3.8	13:50 0.9	20:15 4.2	25:15 0.4					S	5	8:10 3.9	14:10 1.0	20:27 8.9	25:27 0.6					
	W	6	6:58 4.0	13:07 0.6	19:45 4.5	20:40				S	6	8:49 3.9	14:52 0.9	21:18 4.1	26:18 0.5					M	6	9:08 4.0	15:05 1.0	21:16 8.8	26:16 0.6					
	Th	7	7:10 3.8	8:07 0.8	14:20 4.3	20:50 0.5				S	7	9:48 4.0	15:52 0.9	22:07 4.1	27:07 0.5					Tu	7	10:00 4.1	16:00 0.9	22:00 8.8	27:00 0.5					
	F	8	8:20 3.8	9:16 0.8	15:25 4.3	21:53 0.4				M	8	10:42 4.1	16:48 0.7	22:52 4.1	28:52 0.4					W	8	11:24 4.3	17:46 0.7	23:48 8.8	29:48 0.5					
	S	9	4:20 3.9	10:20 0.7	16:25 4.3	22:48 0.3				A	Tu	5:12 4.4	11:27 0.6	17:30 4.1	23:32 0.3					Th	9	5:04 4.5	11:30 0.5	17:20 8.8	23:25 0.4					
	S	10	5:10 4.1	11:13 0.6	17:18 4.4	23:35 0.2				E	W	6:50 4.5	12:06 0.4	18:10 4.1						F	10	5:44 4.7	12:10 0.3	18:12 8.9						
E	M	11	6:53 4.3	12:00 0.4	18:03 4.5					Th	11	8:08 0.2	12:45 4.7	18:46 0.2	24:46 4.1					S	11	9:02 0.4	12:52 4.9	18:52 0.2	24:52 3.9					
	Tu	12	8:16 0.1	13:00 4.5	19:03 0.3	25:44 4.5			●	F	9:42 0.2	14:03 4.8	19:20 0.1	25:20 4.1					S	12	10:48 0.3	15:00 5.0	20:00 0.0	26:00 4.0						
	W	13	9:50 0.1	14:00 4.6	20:03 0.2	26:44 4.4				S	13	11:16 0.3	15:03 4.9	20:00 0.0	27:00 4.1					M	13	12:00 0.4	16:00 5.1	21:00 -0.1	28:00 4.1					
	Th	14	1:22 0.1	7:32 4.7	13:47 0.1	19:51 4.3				S	14	1:45 0.4	8:08 5.0	14:31 0.0	20:28 4.1					Tu	14	2:00 0.4	8:28 5.1	14:55 -0.2	20:55 4.1					
	F	15	1:50 0.2	8:03 4.8	14:20 0.1	20:22 4.2				M	15	2:18 0.4	8:46 4.9	15:10 0.0	21:05 4.0					W	15	2:43 0.4	9:12 5.0	15:40 -0.2	21:40 4.1					
	S	16	2:18 0.3	8:33 4.8	14:54 0.1	20:52 4.1				S	Tu	2:58 0.5	9:25 4.8	15:54 0.1	21:45 4.0					Th	16	3:30 0.5	9:58 4.9	16:25 -0.1	22:30 4.2					
	S	17	2:47 0.4	9:08 4.7	15:30 0.2	21:25 4.0					W	17	3:35 0.6	10:10 4.7	16:40 0.2	22:35 3.9					F	17	4:22 0.5	10:47 4.7	17:15 -0.1	23:25 4.2				
	M	18	3:15 0.5	9:45 4.6	16:08 0.3	21:58 4.1					Th	18	4:28 0.7	11:00 4.5	17:32 0.2	23:34 3.9					S	18	5:20 0.6	11:40 4.5	18:08 0.0					
	Tu	19	3:52 0.6	10:26 4.5	16:54 0.4	22:43 3.8					F	19	5:25 0.8	11:55 4.4	18:28 0.3					S	19	6:25 4.3	12:40 0.6	19:02 4.4	24:02 0.1					
	S	20	4:35 0.8	11:15 4.4	17:47 0.5	23:40 3.7				D	S	6:40 8.9	12:05 0.9	18:00 4.3	19:28 0.3					M	20	7:34 4.5	13:42 0.6	20:00 4.3	25:00 0.1					
D	Th	21	5:32 0.9	12:12 4.2	18:47 0.5					S	21	1:48 4.1	7:52 0.8	14:05 4.3	20:28 0.2					Tu	21	2:28 4.7	8:40 0.4	14:46 4.3	21:00 0.0					
	F	22	6:50 3.7	1:00 1.0	19:52 4.2	25:05 0.5				M	22	2:53 4.4	9:04 0.5	15:10 4.4	21:27 0.0					W	22	3:24 4.3	9:48 0.2	15:51 4.3	21:56 -0.1					
	S	23	2:05 3.8	8:07 0.9	14:29 4.2	20:55 0.3				E	Tu	3:50 4.8	10:06 0.1	16:14 4.6	22:24 -0.2					Th	23	4:20 5.1	10:46 0.0	16:53 4.4	22:52 -0.2					
	S	24	3:14 4.1	9:21 0.6	15:35 4.5	21:55 0.1					W	24	4:44 5.1	11:05 -0.2	17:10 4.7	23:16 -0.4					F	24	5:15 5.4	11:40 -0.3	17:50 4.5	23:47 -0.3				
	M	25	4:15 4.6	10:27 0.2	16:35 4.7	22:52 -0.2				P	Th	5:36 5.5	12:00 -0.5	18:05 4.9						S	25	6:06 5.6	12:35 -0.4	18:44 4.6						
	Tu	26	5:08 5.0	11:24 -0.2	17:33 5.0	23:43 -0.6					F	26	6:06 -0.6	12:25 5.7	18:48 -0.7	24:48 4.9					S	26	6:40 -0.4	13:05 5.7	19:25 -0.5	25:25 4.6				
	W	27	6:59 5.4	12:17 -0.6	18:26 5.2					O	S	7:56 -0.6	1:15 5.9	19:38 -0.8	25:50 4.9					M	27	1:28 -0.3	7:45 5.7	14:12 -0.6	20:25 4.6					
	Th	28	8:32 -0.8	2:06 5.7	19:06 -0.9	25:15 5.3					S	28	1:45 -0.5	8:00 5.8	14:28 -0.8	20:38 4.8					Tu	28	2:20 -0.2	8:32 5.6	15:00 -0.5	21:14 4.5				
	F	29	1:20 -0.8	7:33 5.9	13:56 -1.0	20:03 5.2				N	M	2:34 -0.4	8:48 5.7	15:18 -0.7	21:30 4.6					W	29	3:05 0.0	9:20 5.3	15:46 -0.4	22:00 4.4					
	S	30	2:05 -0.8	8:22 5.9	14:44 -0.9	20:52 5.1					Tu	30	3:22 -0.1	9:38 5.4	16:08 -0.5	22:22 4.4					Th	30	3:54 0.2	10:05 5.1	16:30 -0.2	22:50 4.3				
S	31	2:53 -0.6	9:10 5.7	15:33 -0.7	21:45 4.8														F	31	4:44 0.5	10:52 4.7	17:16 0.0	23:36 4.1						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
CZ	F	1	8:48 0.1	9:30 5.3	16:30 0.2	22:08 4.7	N	M	1	5:16 -0.1	11:08 5.6	18:05 0.1	23:30 4.4	N	M	1	8:58 0.1	9:42 5.4	16:37 0.2	22:12 4.4												
	S	2	4:44 0.0	10:32 5.5	17:31 0.1	22:59 4.7		Tu	2	6:15 0.1	12:00 5.6	19:00 0.0			Tu	2	4:58 0.2	10:43 5.4	17:36 0.2	23:08 4.4												
	S	3	5:41 0.0	11:30 5.7	18:27 0.0	23:51 4.6		W	3	0:19 4.4	7:10 0.0	12:49 5.6	19:50 0.0		W	3	5:58 0.1	11:37 5.5	18:32 0.1	23:59 4.5												
	M	4	6:36 -0.1	12:20 5.8	19:24 -0.1			Th	4	1:05 4.4	8:00 0.0	13:32 5.6	20:37 -0.1		Th	4	6:47 0.1	12:24 5.5	19:22 0.0													
	Tu	5	0:40 4.5	7:31 -0.1	13:09 5.8	20:14 -0.1		F	5	1:49 4.4	8:50 0.1	14:10 5.6	21:20 0.0		F	5	0:43 4.6	7:38 0.1	13:07 5.4	20:08 0.0												
	W	6	1:26 4.4	8:22 0.0	13:53 5.8	21:01 -0.1		S	6	2:27 4.5	9:32 0.2	14:49 5.5	22:02 0.1		S	6	1:25 4.7	8:25 0.0	13:46 5.4	20:52 0.0												
	Th	7	2:10 4.4	9:09 0.1	14:35 5.7	21:46 0.0		S	7	3:05 4.5	10:13 0.3	15:23 5.4	22:41 0.1		S	7	2:08 4.7	9:08 0.1	14:22 5.3	21:33 0.1												
	F	8	2:51 4.4	9:55 0.2	15:18 5.6	22:30 0.0		M	8	3:42 4.6	10:58 0.4	15:56 5.3	23:18 0.2		M	8	2:38 4.8	9:49 0.3	14:57 5.2	22:10 0.2												
	S	9	3:31 4.4	10:38 0.3	15:49 5.5	23:10 0.1		Tu	9	4:18 4.7	11:32 0.5	16:31 5.2	23:53 0.3		Tu	9	3:11 4.9	10:26 0.4	15:28 5.1	22:45 0.4												
	S	10	4:10 4.4	11:20 0.4	16:24 5.4	23:49 0.2		W	10	4:55 4.9	12:05 0.7	17:08 5.1			W	10	3:45 5.0	11:02 0.4	16:02 5.1	23:20 0.5												
A	M	11	4:50 4.5	12:01 0.5	17:08 5.3		Th	11	0:27 0.4	5:36 5.0	12:42 0.8	17:52 5.0	Th	11	4:20 5.2	11:37 0.6	16:40 5.0	23:49 0.6														
	Tu	12	0:28 0.2	5:32 4.6	12:42 0.6	17:45 5.2	F	12	1:02 0.5	6:25 5.1	13:25 0.8	18:44 4.8	F	12	5:02 5.3	12:12 0.7	17:22 4.8															
	W	13	1:05 0.3	6:17 4.7	13:22 0.7	18:33 5.0	S	13	1:42 0.6	7:18 5.3	14:20 0.8	19:42 4.6	S	13	0:12 0.7	5:48 5.4	12:55 0.8	18:12 4.6														
	Th	14	1:46 0.4	7:18 4.9	14:08 0.7	19:28 4.9	S	14	2:27 0.6	8:18 5.4	15:25 0.8	20:47 4.5	S	14	0:32 0.8	6:42 5.4	13:54 0.8	19:08 4.5														
	F	15	2:31 0.4	8:03 5.1	15:01 0.6	20:25 4.7	M	15	3:30 0.5	9:22 5.4	16:31 0.7	21:57 4.5	M	15	1:30 0.7	7:42 5.3	14:55 0.7	20:16 4.4														
	S	16	3:18 0.4	9:02 5.3	16:00 0.7	21:29 4.6	Tu	16	4:40 0.4	10:26 5.6	17:34 0.5	22:56 4.6	Tu	16	3:00 0.6	8:48 5.3	16:02 0.6	21:28 4.4														
	S	17	4:15 0.3	10:01 5.4	17:01 0.6	22:28 4.6	W	17	5:42 0.3	11:26 5.8	18:34 0.2	23:50 4.7	W	17	4:14 0.5	9:58 5.4	17:07 0.4	22:32 4.5														
	M	18	5:12 0.3	10:59 5.6	18:05 0.4	23:24 4.6	Th	18	6:42 0.1	12:22 6.0	19:30 0.0		Th	18	5:18 0.3	11:05 5.6	18:06 0.2	23:30 4.7														
	Tu	19	6:11 0.2	11:53 5.8	19:01 0.2		F	19	0:42 4.9	7:38 -0.2	13:13 6.1	20:20 -0.2	F	19	6:22 0.1	12:02 5.8	19:01 0.0															
	W	20	0:15 4.7	7:07 0.1	12:44 6.0	19:56 0.0	S	20	1:31 5.1	8:30 -0.4	14:02 6.2	21:13 -0.4	S	20	0:21 5.0	7:18 -0.1	12:53 6.0	19:53 -0.2														
P	Th	21	1:04 4.8	8:00 0.0	13:33 6.2	20:48 -0.2	E	S	21	2:19 5.3	9:22 -0.5	14:50 6.0	21:55 -0.5	E	S	21	1:10 5.4	8:10 -0.4	13:42 6.0	20:41 -0.1												
	F	22	1:52 4.8	8:51 -0.1	14:21 6.3	21:35 -0.3		M	22	3:07 5.4	10:13 -0.6	15:38 6.0	22:40 -0.5		M	22	1:59 5.7	9:03 -0.6	14:28 5.8	21:28 -0.5												
	S	23	2:40 4.9	9:40 -0.3	15:09 6.2	22:25 -0.3		Tu	23	3:56 5.6	11:02 -0.5	16:24 5.8	23:28 -0.4		Tu	23	2:45 5.8	9:58 -0.6	15:14 5.7	22:15 -0.5												
	S	24	3:29 5.0	10:31 -0.3	15:57 6.1	23:11 -0.4		W	24	4:43 5.6	11:55 -0.4	17:13 5.5			W	24	3:33 5.9	10:42 -0.6	16:00 5.5	23:00 -0.4												
	M	25	4:19 5.1	11:23 -0.2	16:45 5.9	23:58 -0.3		Th	25	0:15 -0.4	5:33 5.5	12:47 -0.2	18:03 5.1		Th	25	4:18 5.8	11:32 -0.4	16:48 5.2	23:48 -0.2												
	Tu	26	5:09 5.2	12:16 -0.1	17:35 5.6			F	26	1:05 -0.3	6:28 5.5	13:40 0.0	19:00 4.8		F	26	5:07 5.7	12:23 -0.2	17:38 4.9													
	W	27	0:45 -0.2	6:01 5.2	13:09 0.0	18:30 5.3		S	27	1:56 -0.1	7:30 5.4	14:38 0.1	20:08 4.5		S	27	0:38 -0.1	6:00 5.6	13:17 0.0	18:32 4.6												
	Th	28	1:32 -0.2	6:55 5.3	14:05 0.1	19:27 5.0		S	28	2:54 0.1	8:35 5.4	15:40 0.2	21:10 4.4		S	28	1:31 0.0	7:00 5.5	14:12 0.1	19:33 4.4												
	F	29	2:22 -0.1	7:58 5.3	15:02 0.2	20:32 4.7									M	29	2:28 0.1	8:08 5.4	15:10 0.2	20:35 4.4												
	S	30	3:18 0.0	9:03 5.4	16:05 0.2	21:36 4.6									Tu	30	3:28 0.2	9:10 5.3	16:08 0.2	21:43 4.4												
S	31	4:16 0.0	10:07 5.5	17:05 0.2	22:35 4.4							W	31	4:28 0.3	10:12 5.2	17:03 0.2	22:42 4.5															

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●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	5:22 0.2	11:07 5.2	17:56 0.1	23:30 4.7	E	S	1	5:47 0.3	11:16 5.0	18:08 0.1	23:42 5.0	C	Tu	1	6:50 0.3	12:06 4.8	19:02 0.2	23:42 5.0												
	F	2	6:18 0.1	11:54 5.3	18:47 0.0	23:30 4.7		S	2	6:37 0.2	12:00 5.0	18:55 0.1	23:42 5.0		W	2	6:30 5.5	7:38 0.2	12:49 4.8	19:47 0.3												
	S	3	6:16 4.8	7:10 0.1	12:36 5.3	19:33 0.0		M	3	6:25 5.2	7:25 0.1	12:42 5.0	19:40 0.2		Th	3	1:12 5.6	8:26 0.2	13:32 4.8	20:32 0.5												
	S	4	6:56 4.9	7:56 0.1	13:16 5.2	20:18 0.0		Tu	4	1:02 5.3	8:10 0.2	13:20 4.9	20:22 0.3		F	4	1:54 5.8	9:12 0.1	14:14 4.6	21:15 0.6												
	E	M	5	1:34 5.0	8:40 0.1	13:32 5.1		20:57 0.1	C	W	5	1:40 5.5	8:52 0.2		13:58 4.8	21:03 0.5	S	S	5	2:34 5.8	10:00 0.2	14:55 4.5	21:58 0.6									
Tu		6	2:08 5.1	9:20 0.2	14:25 5.0	21:37 0.3	Th	6		2:17 5.6	9:35 0.2	14:35 4.7	21:42 0.7	S	6	3:14 5.9		10:43 0.2	15:38 4.5	22:42 0.7												
W		7	2:43 5.2	10:00 0.3	15:02 4.9	22:12 0.5	F	7		2:58 5.7	10:17 0.3	15:15 4.6	22:20 0.7	M	7	3:58 5.8		11:30 0.2	16:25 4.5	23:28 0.7												
Th		8	3:17 5.4	10:37 0.5	15:37 4.8	22:47 0.7	S	8		3:32 5.7	11:00 0.4	15:54 4.5	22:56 0.8	Tu	8	4:45 5.7		12:17 0.2	17:14 4.5	23:28 0.7												
F		9	3:53 5.5	11:15 0.6	16:08 4.7	23:17 0.8	S	9		4:12 5.7	11:45 0.4	16:38 4.5	23:35 0.9	W	9	5:20 0.6		13:25 0.3	18:06 4.5	23:58 0.8												
S	S	10	4:33 5.5	11:56 0.6	16:56 4.6	23:45 0.8	M	M	10	5:00 5.6	12:32 0.5	17:28 4.4	23:58 0.9	C	Th	10	1:16 0.6	6:36 5.4	13:56 0.2	19:12 4.6												
	S	11	5:20 5.5	12:45 0.7	17:45 4.5	23:58 0.8		Tu	11	0:26 0.8	5:52 5.5	13:22 0.5	18:25 4.3		F	11	2:16 0.5	7:40 5.2	14:50 0.2	20:16 4.8												
	M	12	0:25 0.9	6:14 5.4	13:36 0.7	18:45 4.3		C	W	12	1:29 0.8	6:53 5.3	14:18 0.4		19:33 4.4	F	12	3:17 0.4	8:47 5.0	15:45 0.2	21:20 5.1											
	Tu	13	1:26 0.9	7:14 5.3	14:47 0.7	19:52 4.3			Th	13	2:32 0.6	8:00 5.2	15:15 0.4		20:40 4.6	S	13	4:20 0.3	9:55 5.0	16:40 0.1	22:22 5.4											
	W	14	2:45 0.8	8:23 5.3	15:38 0.6	21:04 4.4			F	14	3:37 0.5	9:12 5.2	16:12 0.3		21:47 5.0	M	14	5:21 0.1	10:52 4.9	17:34 0.0	23:20 5.6											
Th	15	3:55 0.7	9:33 5.3	16:38 0.4	22:12 4.7	S	15		4:38 0.3	10:21 5.2	17:10 0.1	22:47 5.3	Tu	15	6:20 -0.1	11:45 4.8	18:30 -0.1	23:58 5.6														
F	F	16	4:59 0.4	10:43 5.4	17:38 0.2	23:08 5.0	E		S	16	5:42 0.0	11:16 5.3	18:03 -0.1	23:40 5.6	N	W	16	0:12 5.8	7:17 -0.2	12:34 4.8	19:23 -0.1											
	S	17	6:00 0.1	11:40 5.6	18:32 0.0	23:58 5.0		M	17	6:40 -0.2	12:07 5.3	18:55 -0.1	23:58 5.6	Th		17	1:02 6.0	8:10 -0.3	18:21 4.7	20:15 -0.1												
	S	18	0:00 5.4	6:58 -0.2	12:31 5.6	19:23 -0.2		Tu	18	0:30 5.8	7:34 -0.3	12:55 5.2	19:45 -0.2	F		18	1:47 6.0	8:58 -0.3	14:07 4.6	21:05 0.0												
	M	19	0:50 5.7	7:53 -0.4	13:18 5.6	20:12 -0.3		C	W	19	1:18 6.0	8:26 -0.4	13:42 5.1	20:33 -0.2		S	19	2:34 6.0	9:46 -0.2	14:52 4.5	21:53 0.1											
	Tu	20	1:36 5.9	8:44 -0.5	14:05 5.5	21:02 -0.4			Th	20	2:05 6.1	9:16 -0.4	14:28 4.9	21:24 -0.2		S	20	3:17 5.9	10:30 -0.2	15:37 4.5	22:40 0.2											
W	21	2:24 6.1	9:34 -0.6	14:48 5.3	21:47 -0.3	F	21		2:50 6.1	10:05 -0.4	15:13 4.8	22:10 0.0	M	21	3:58 5.7	11:17 -0.1	16:20 4.5	23:28 0.3														
Th	22	3:09 6.1	10:22 -0.5	15:35 5.1	22:34 -0.2	N	S		22	3:35 6.0	10:53 -0.2	15:58 4.6	23:00 0.1	Tu	22	4:39 5.6	12:00 0.0	17:08 4.5	23:58 0.4													
F	23	3:56 6.0	11:12 -0.4	16:22 4.9	23:22 0.0		S		23	4:18 5.8	11:42 -0.1	16:45 4.5	23:50 0.2	W	23	5:23 0.4	13:02 5.4	18:13 0.1	24:58 4.5													
S	24	4:43 5.9	12:02 -0.2	17:12 4.7	23:58 0.0		M	24	5:05 5.6	12:27 0.0	17:36 4.4	23:58 0.2	Th	24	1:00 0.5	6:08 5.2	13:28 0.2	18:43 4.6														
N	S	25	0:12 0.1	5:32 5.7	12:53 0.0		18:03 4.5	Tu	25	0:40 0.3	5:55 5.4	13:14 0.1	18:28 4.4	A	F	25	1:49 0.6	6:58 5.0	14:12 0.2	19:36 4.7												
	M	26	1:06 0.3	6:27 5.4	13:44 0.1		19:00 4.4	D	W	26	1:32 0.5	6:47 5.2	14:02 0.2		19:25 4.4	S	26	2:37 0.7	7:52 4.9	15:00 0.3	20:30 4.9											
	Tu	27	2:00 0.4	7:28 5.3	14:37 0.2	20:00 4.4	Th		27	2:24 0.5	7:43 5.0	14:53 0.2	20:22 4.6		S	27	3:30 0.7	8:50 4.7	15:48 0.3	21:25 5.1												
	W	28	2:55 0.4	8:29 5.1	15:31 0.2	21:07 4.5	F		28	3:20 0.6	8:42 4.9	15:42 0.2	21:20 4.8		M	28	4:23 0.7	9:48 4.7	16:38 0.3	22:20 4.5												
	Th	29	3:55 0.4	9:30 5.0	16:24 0.2	22:08 4.6	S		29	4:12 0.5	9:42 4.8	16:35 0.2	22:17 5.0		Tu	29	5:18 0.6	10:42 4.6	17:33 0.4	23:13 5.4												
A	F	30	4:52 0.4	10:30 5.0	17:17 0.1	22:57 4.8	S		30	5:08 0.5	10:34 4.8	17:25 0.2	23:04 5.2	W	30	6:15 0.4	11:32 4.6	18:23 0.4	23:59 5.6													
							M	31	5:59 0.4	11:22 4.8	18:15 0.2	23:50 5.4																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
u	Th	1	7:15	12:27	19:20					○	S	1	1:20	8:30	13:37	20:35	P	W	1	2:29	9:35	14:45	21:53									
			0.3	4.6	0.4								6.0	0.0	4.8	0.1			6.1	—0.4	5.5	—0.4										
	F	2	0:53	8:07	13:15	20:10						M	2	2:07	9:18	14:25	21:25	E	Th	2	3:16	10:21	15:33	22:40								
			5.8	0.1	4.6	0.4							6.1	—0.2	4.9	—0.1			5.9	—0.3	5.6	—0.4										
	S	3	1:39	8:56	13:59	20:58					P	Tu	3	2:54	10:07	15:12	22:15		F	3	4:03	11:06	16:20	23:32								
			5.9	0.0	4.6	0.3							6.2	—0.2	5.0	—0.1			5.7	—0.3	5.7	—0.3										
	S	4	2:24	9:43	14:42	21:45						W	4	3:40	10:53	15:59	23:05		S	4	4:49	11:52	17:08									
P			6.0	0.0	4.6	0.3							6.1	—0.2	5.1	—0.1			5.4	—0.3	5.6											
	M	5	3:08	10:30	15:30	22:31					E	Th	5	4:25	11:38	16:48	23:56		S	5	5:23	12:41	18:01									
			6.0	—0.1	4.7	0.4							5.9	—0.2	5.2	—0.1			—0.2	5.1	—0.1	5.6										
	Tu	6	3:52	11:17	16:17	23:22						F	6	5:13	12:23	17:38		☾	M	6	6:17	13:32	19:01									
			6.0	—0.1	4.7	0.3							5.6	—0.1	5.3				0.0	4.8	0.0	5.5										
	W	7	4:40	12:03	17:07							S	7	6:07	13:12	18:31			Tu	7	7:14	14:29	20:06									
			5.9	0.0	4.8								0.0	5.3	—0.1	5.3			0.1	4.5	0.1	5.4										
E	Th	8	0:15	5:29	12:50	18:00					☾	S	8	1:42	7:02	14:05	19:31		N	W	8	3:12	8:42	15:29	21:15							
			0.3	5.6	0.0	4.9							0.1	5.0	0.0	5.3			0.2	4.4	0.3	5.4										
	F	9	1:07	6:25	13:38	18:57						M	9	2:40	8:08	14:57	20:37			Th	9	4:13	9:49	16:30	22:19							
			0.3	5.4	0.0	5.0							0.2	4.7	0.1	5.4			0.3	4.3	0.2	5.4										
	S	10	2:03	7:25	14:28	19:57						Tu	10	3:42	9:12	15:45	21:43			F	10	5:13	10:48	17:31	23:21							
			0.3	5.1	0.1	5.1							0.3	4.5	0.1	5.5			0.2	4.4	0.1	5.4										
	S	11	3:02	8:30	15:23	21:00						W	11	4:43	10:13	16:56	22:46			S	11	6:10	11:41	18:28								
☾			0.3	4.9	0.1	5.3							0.3	4.4	0.1	5.5			0.1	4.5	0.0											
	M	12	4:07	9:37	16:19	22:05					N	Th	12	5:43	11:12	17:55	23:47			S	12	7:09	12:28	19:21								
			0.3	4.7	0.1	5.5							0.2	4.4	0.1	5.6			0.0	4.4	0.0	4.7	0.0									
	Tu	13	5:07	10:33	17:18	23:07						F	13	6:41	12:06	18:52			M	13	8:58	13:18	20:09									
			0.2	4.6	0.1	5.6							0.1	4.4	0.0				5.4	—0.1	4.7	0.0										
	W	14	6:07	11:30	18:13							S	14	8:36	7:34	12:52	19:46	●		Tu	14	1:35	8:35	13:52	20:52							
			0.1	4.5	0.0								5.6	0.0	4.5	0.0			5.4	—0.1	4.8	0.0										
N	Th	15	0:03	7:04	12:21	19:10					●	S	15	1:22	8:21	13:38	20:35			W	15	2:12	9:07	14:28	21:36							
			5.7	0.0	4.5	0.0							5.6	—0.1	4.5	0.0			5.3	0.0	4.9	0.1										
	F	16	0:58	7:57	13:10	20:03						M	16	2:03	9:07	14:21	21:20		E	Th	16	2:46	9:57	15:02	22:16							
			5.8	—0.1	4.5	—0.1							5.6	—0.1	4.6	0.0			5.1	0.2	5.0	0.3										
	S	17	1:40	8:45	13:56	20:58						Tu	17	2:42	9:50	14:57	22:05		A	F	17	3:19	10:34	15:36	22:52							
			5.8	—0.1	4.5	0.0							5.5	—0.1	4.6	0.2			5.0	0.3	5.0	0.4										
	S	18	2:24	9:30	14:42	21:41						W	18	3:18	10:19	15:35	22:44			S	18	3:51	11:08	16:10	23:28							
A			5.7	—0.1	4.5	0.0							5.4	0.1	4.7	0.3			4.9	0.5	5.1	0.6										
	M	19	3:06	10:15	15:23	22:27					A	Th	19	3:53	11:09	16:02	23:25			S	19	4:26	11:40	16:48								
			5.6	—0.1	4.5	0.2					E		5.2	0.2	4.8	0.5			4.8	0.6	5.3											
	Tu	20	3:45	10:57	16:03	23:12						F	20	4:26	11:45	16:48			M	20	5:03	12:06	17:12	23:30								
			5.5	0.0	4.5	0.3							5.1	0.3	4.9				0.7	4.7	0.7	5.3										
	W	21	4:22	11:38	16:45	23:55						S	21	5:00	5:02	12:21	17:27			Tu	21	5:44	12:19	18:21								
			5.4	0.1	4.6	0.4							0.6	5.0	0.4	5.0			0.8	4.6	0.8	5.4										
☾	Th	22	4:57	12:18	17:26							S	22	5:39	5:42	12:57	18:13		☾	W	22	6:15	13:44	18:24	19:17							
			5.3	0.1	4.7								0.7	4.9	0.5	5.1			0.8	4.4	0.9	5.3										
	F	23	5:35	5:37	12:58	18:08					☾	M	23	6:21	6:30	13:36	19:00		S	Th	23	7:05	14:28	19:28	20:21							
			0.5	5.2	0.2	4.8							0.8	4.7	0.6	5.2			0.8	4.3	0.8	5.3										
	S	24	6:17	6:22	13:38	18:56						Tu	24	7:05	7:18	14:16	19:54			F	24	7:50	15:47	21:30								
			0.7	5.0	0.3	4.9							0.9	4.6	0.7	5.3			0.7	4.4	0.7	5.3										
	S	25	7:02	7:10	14:22	19:48						W	25	8:01	8:23	15:10	20:58			S	25	8:41	16:09	21:54	22:37							
A			0.8	4.8	0.4	5.0							0.9	4.4	0.7	5.3			0.6	4.5	0.5	5.5										
	M	26	7:53	8:08	15:12	20:47						Th	26	8:46	9:32	16:16	22:02			S	26	9:21	17:56	22:38								
			0.8	4.7	0.5	5.2							0.8	4.4	0.7	5.4			0.4	4.8	0.3	5.6										
	Tu	27	8:48	9:10	16:05	21:45					S	F	27	9:40	10:35	17:20	23:04			M	27	10:11	18:54									
			0.8	4.5	0.5	5.3							0.6	4.5	0.5	5.6			0.1	5.1	0.0											
	W	28	9:46	10:12	17:00	22:43						S	28	10:40	11:31	18:21			Tu	28	11:11	19:49										
			0.7	4.5	0.5	5.4							0.4	4.6	0.3			5.8	—0.1	5.4	—0.3											
S	Th	29	10:47	11:08	17:56	23:38						S	29	11:41	12:07	18:22	19:17		☾	W	29	12:12	19:49									
			0.5	4.5	0.5	5.6							5.8	0.1	4.9	0.1			5.9	—0.2	5.7	—0.5										
	F	30	11:45	12:00	18:50							M	30	12:41	12:59	19:11	20:09			2:07	9:06	14:28	21:31									
			0.3	4.6	0.3								6.0	—0.1	5.1	0.0			5.8	—0.3	5.9	—0.6										
	S	31	12:40	7:40	12:49	19:45					○	Tu	31	1:41	8:46	13:58	21:01															
			5.8	0.1	4.7	0.2							6.1	—0.2	5.3	—0.3																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
	F	1	2:58 5.7	9:51 -0.3	15:10 6.0	22:20 -0.5		M	1	4:02 4.9	11:08 -0.1	16:24 6.0	23:48 -0.3		W	1	4:29 4.6	11:31 0.1	16:50 5.8	
	S	2	3:39 5.5	10:39 -0.3	15:57 6.0	23:12 -0.4	N	Tu	2	4:58 4.7	11:58 0.0	17:18 5.8		Th	2	0:10 -0.2	5:21 4.5	12:23 0.2	17:40 5.5	
	S	3	4:26 5.2	11:26 -0.1	16:45 5.9			W	3	5:34 -0.1	12:46 4.5	18:08 5.5		F	3	0:59 0.0	6:13 4.5	13:14 0.3	18:32 5.3	
	M	4	5:02 -0.3	12:16 4.9	17:38 0.0	5.7	C	Th	4	6:25 0.0	13:44 4.4	19:07 5.3		C	S	4	1:47 0.0	7:09 4.5	14:09 0.4	19:28 5.1
N	Tu	5	5:56 -0.1	13:09 4.6	18:35 0.1	5.5		F	5	7:18 0.1	14:45 4.4	20:10 5.2		S	5	2:36 0.1	8:06 4.6	15:08 0.5	20:26 4.9	
C	W	6	1:51 0.1	7:10 4.4	14:06 0.2	5.4		S	6	8:12 0.1	15:37 4.5	21:12 5.0	E	M	6	3:25 0.1	9:04 4.8	15:57 0.5	21:25 4.8	
	Th	7	2:48 0.2	8:15 4.4	15:05 0.3	5.3		S	7	9:06 0.1	16:34 4.7	22:13 5.0	A	Tu	7	4:17 0.1	10:00 5.0	16:51 0.4	22:19 4.8	
	F	8	3:46 0.2	9:24 4.4	16:05 0.3	5.2		M	8	10:44 0.1	17:28 4.9	23:08 5.0		W	8	5:08 0.2	10:51 5.2	17:46 0.4	23:06 4.7	
	S	9	4:42 0.1	10:23 4.5	17:04 0.2	5.2	A	Tu	9	11:30 0.0	18:21 5.1	23:48 5.0		Th	9	5:56 0.2	11:36 5.3	18:37 0.3	23:52 4.7	
	S	10	5:36 0.1	11:16 4.7	18:01 0.1	5.2	E	W	10	12:13 0.0	19:11 5.2			F	10	6:45 0.3	12:19 5.5	19:25 0.3		
	M	11	6:27 0.0	12:02 4.9	18:54 0.0			Th	11	1:08 4.9	20:02 5.3	19:58 0.1		S	11	7:33 4.6	13:03 0.4	20:14 5.6	20:14 0.2	
	Tu	12	7:16 5.2	12:45 -0.1	19:41 5.0	0.0	●	F	12	1:58 4.8	20:52 5.4	20:42 0.2	●	S	12	8:18 4.5	13:40 0.5	21:00 5.6	21:00 0.2	
E	W	13	8:02 5.1	13:24 0.0	20:28 5.1	0.1		S	13	2:46 4.7	21:46 5.5	21:24 0.3		M	13	9:03 4.5	14:21 0.5	21:46 5.7	21:46 0.2	
●	Th	14	8:44 5.0	14:00 0.1	21:10 5.2	0.1		S	14	3:31 4.6	22:41 5.6	22:06 0.3	S	Tu	14	9:44 4.4	15:00 0.5	22:29 5.8	22:29 0.2	
	F	15	9:23 4.9	14:31 0.3	21:50 5.2	0.3		M	15	4:18 4.5	23:31 5.7	22:48 0.4		W	15	10:27 4.4	15:40 0.6	23:15 5.8	23:15 0.3	
	S	16	10:01 4.8	15:07 0.5	22:28 5.3	0.4	S	Tu	16	5:06 4.4	24:21 5.7	23:30 0.5		Th	16	11:12 4.4	16:24 0.7	23:56 5.7	23:56 0.3	
	S	17	10:38 4.7	15:38 0.7	23:07 5.4	0.5		W	17	5:52 4.4	25:11 5.8			F	17	12:01 4.5	16:57 0.9			
	M	18	11:19 4.6	16:12 0.9	23:47 5.5	0.6		Th	18	6:40 0.5	26:01 5.9	25:29 5.5		S	18	12:48 0.3	17:44 0.6	18:07 0.7	18:07 5.5	
	Tu	19	12:06 4.5	16:43 0.9	24:28 5.5			F	19	7:28 0.5	26:50 6.0	26:18 5.4	☽	S	19	13:36 0.3	18:31 0.7	19:05 0.6	19:05 5.2	
S	W	20	1:00 0.7	17:14 4.4	25:11 1.0	5.5	☽	S	20	8:16 0.5	27:40 6.1	27:08 5.8	E	M	20	14:24 0.3	19:19 0.8	20:11 0.5	20:11 5.0	
	Th	21	1:47 0.7	17:45 4.3	25:51 0.9	5.4		S	21	9:04 0.4	28:30 6.2	27:58 5.2		Tu	21	15:11 0.3	20:06 0.9	21:20 0.4	21:20 4.9	
☽	F	22	2:34 0.7	18:16 4.3	26:42 0.9	5.3		M	22	9:52 0.4	29:20 6.3	28:48 5.1	P	W	22	16:00 0.2	20:54 0.3	22:23 0.3	22:23 4.8	
	S	23	3:11 0.6	18:33 4.4	27:12 0.8	5.2	E	Tu	23	10:39 0.3	30:08 6.2	29:36 5.2		Th	23	16:48 0.2	21:42 0.5	23:18 0.1	23:18 4.8	
	S	24	4:12 0.5	19:42 4.7	28:31 0.5	5.3		W	24	11:28 0.1	31:00 6.5	30:28 5.2		F	24	17:36 0.1	22:30 0.6			
	M	25	5:11 0.3	20:48 5.0	29:34 0.2	5.4	P	Th	25	12:16 0.0	32:00 6.6	31:28 5.2		S	25	18:24 0.7	23:18 0.0	19:47 5.9	19:47 -0.2	
	Tu	26	6:05 0.1	21:37 5.4	30:33 0.0			F	26	1:04 5.1	32:56 -0.1	32:05 5.3	○	S	26	19:12 4.7	24:06 0.0	20:38 6.0	20:38 -0.2	
E	W	27	7:00 5.6	22:27 -0.1	31:37 5.6	-0.3	○	S	27	1:52 5.0	33:44 -0.1	33:07 5.4	N	M	27	20:00 4.6	24:54 -0.1	21:28 6.0	21:28 -0.3	
C	Th	28	8:00 5.5	23:17 -0.2	32:29 5.9	-0.4		S	28	2:40 4.9	34:32 -0.2	33:57 5.4		Tu	28	20:48 4.6	25:42 0.0	22:16 6.0	22:16 -0.2	
	F	29	1:43 5.4	8:36 -0.3	14:02 6.1	-0.5	N	M	29	3:28 4.8	35:20 -0.1	34:45 5.5		W	29	21:36 4.6	26:30 0.0	23:00 5.8	23:00 -0.2	
	S	30	2:28 5.3	9:25 -0.2	14:50 6.2	-0.5		Tu	30	4:16 4.7	36:08 0.0	35:33 5.6		Th	30	22:24 4.6	27:18 0.1	23:44 5.7	23:44 -0.1	
	S	31	3:14 5.1	10:15 -0.2	15:37 6.1	-0.4								F	31	23:12 4.6	28:12 0.2			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	1:55 1.0	8:08 -0.1	14:40 1.3	21:20 0.2	N O	M	1	3:23 0.9	9:25 0.0	16:06 1.3	23:14 0.2	N O	M	1	2:05 0.9	8:05 0.1	14:48 1.2	21:45 0.3												
	S	2	2:50 0.9	8:55 -0.1	15:38 1.4	22:34 0.2		Tu	2	4:22 0.9	10:20 0.0	17:00 1.3	Tu		2	3:12 0.9	9:06 0.1	15:41 1.2	22:42 0.2													
	S	3	3:48 0.9	9:50 -0.1	16:30 1.4	23:35 0.2		W	3	0:05 0.2	5:20 0.9	11:12 0.0	17:48 1.3		W	3	4:16 0.9	10:05 0.1	16:34 1.2	23:28 0.2												
	M	4	4:35 0.9	10:58 -0.1	17:20 1.4	Th		4	0:46 0.2	6:12 0.9	12:04 0.0	18:34 1.4	Th		4	5:12 0.9	11:00 0.1	17:22 1.2														
	Tu	5	0:25 0.2	5:28 0.9	11:26 -0.1	18:10 1.4		○ F	5	1:25 0.2	7:00 0.9	12:54 0.0	19:18 1.4		○ F	5	0:09 0.2	6:00 1.0	11:52 0.1	18:08 1.2												
	W	6	1:10 0.2	6:20 0.9	12:15 -0.1	18:55 1.4		S	6	2:00 0.1	7:45 1.0	13:40 0.0	20:00 1.3		○ S	6	0:45 0.1	6:42 1.0	12:40 0.0	18:50 1.2												
	Th	7	1:52 0.2	7:12 0.9	13:05 0.0	19:40 1.4		S	7	2:35 0.1	8:26 1.0	14:28 0.1	20:40 1.3		A S	7	1:19 0.1	7:20 1.1	13:25 0.0	19:35 1.2												
	F	8	2:32 0.2	8:00 0.9	13:55 0.0	20:25 1.4		A M	8	3:10 0.1	9:10 1.0	15:10 0.1	21:25 1.2		M	8	1:52 0.0	7:58 1.1	14:06 0.0	20:15 1.2												
	S	9	3:10 0.1	8:50 0.9	14:42 0.1	21:10 1.3		E Tu	9	3:45 0.0	9:50 1.1	15:55 0.1	22:05 1.2		E Tu	9	2:27 0.0	8:37 1.1	14:48 0.0	20:50 1.2												
	A C	S	10	3:50 0.1	9:40 0.9	15:30 0.1		21:52 1.3	W	10	4:20 0.0	10:35 1.1	16:40 0.2		22:43 1.1	W	10	3:00 0.0	9:13 1.2	15:25 0.1	21:25 1.1											
M		11	4:30 0.1	10:26 0.9	16:20 0.2	22:36 1.2	Th	11	4:55 0.0	11:14 1.1	17:18 0.2	23:20 1.0	Th	11	3:35 0.0	9:52 1.2	16:02 0.1	22:00 1.1														
Tu		12	5:10 0.1	11:15 1.0	17:10 0.2	23:25 1.2	F	12	5:35 0.0	12:00 1.2	18:02 0.2	23:56 1.0	F	12	4:12 0.0	10:37 1.2	16:45 0.2	22:35 1.0														
W		13	5:47 0.1	12:02 1.0	18:02 0.2	23:35 1.2	○ S	13	6:20 0.0	12:55 1.2	18:56 0.3	23:56 1.0	○ S	13	4:53 0.0	11:27 1.2	17:33 0.2	23:15 1.0														
Th		14	0:08 1.1	6:27 0.1	12:45 1.1	18:55 0.2	S	14	0:40 1.0	7:10 0.0	13:50 1.2	19:55 0.3	○ S	14	5:40 0.0	12:22 1.2	18:24 0.3															
F		15	0:50 1.0	7:06 0.0	13:34 1.1	19:40 0.3	M	15	1:28 0.9	8:04 0.0	14:46 1.2	20:55 0.3	M	15	0:02 0.9	6:33 0.0	13:18 1.2	19:23 0.3														
S		16	1:30 1.0	7:50 0.0	14:25 1.2	20:36 0.3	S Tu	16	2:25 0.9	9:00 -0.1	15:40 1.3	21:56 0.3	S Tu	16	1:02 0.9	7:35 0.0	14:17 1.2	20:25 0.3														
S		17	2:12 1.0	8:40 0.0	15:18 1.3	21:34 0.3	W	17	3:28 1.0	10:00 -0.1	16:36 1.3	22:55 0.2	W	17	2:10 1.0	8:40 0.0	15:15 1.2	21:26 0.2														
M		18	3:00 0.9	9:28 -0.1	16:10 1.3	22:28 0.2	Th	18	4:30 1.1	11:00 -0.1	17:30 1.3	23:45 0.1	Th	18	3:20 1.0	9:45 0.0	16:12 1.2	22:25 0.2														
S P		Tu	19	3:50 1.0	10:20 -0.1	17:00 1.4	23:22 0.2	F	19	5:32 1.1	11:55 -0.2	18:20 1.3		F	19	4:23 1.1	10:46 -0.1	17:08 1.2	23:20 0.1													
	W	20	4:45 1.0	11:12 -0.2	17:52 1.4	23:35 0.2	● S	20	0:35 0.1	6:30 1.2	12:50 -0.2	19:10 1.3	● S	20	5:20 1.2	11:45 -0.1	18:02 1.2															
	Th	21	0:10 0.2	5:42 1.0	12:05 -0.2	18:43 1.4	● S	21	1:25 0.0	7:25 1.3	13:45 -0.2	20:00 1.3	● S	21	0:08 0.0	6:15 1.4	12:40 -0.2	18:50 1.2														
	F	22	1:00 0.1	6:40 1.1	13:00 -0.2	19:30 1.4	E M	22	2:10 -0.1	8:18 1.4	14:38 -0.2	20:50 1.3	E M	22	0:53 -0.1	7:06 1.5	13:32 -0.2	19:36 1.2														
	S	23	1:45 0.1	7:35 1.2	13:56 -0.2	20:20 1.4	Tu	23	2:55 -0.1	9:10 1.4	15:30 -0.1	21:36 1.2	Tu	23	1:38 -0.1	7:58 1.5	14:28 -0.1	20:20 1.2														
	S	24	2:32 0.0	8:32 1.2	14:50 -0.1	21:10 1.3	W	24	3:42 -0.1	9:58 1.4	16:28 0.0	22:22 1.1	W	24	2:24 -0.2	8:43 1.5	15:13 -0.1	21:05 1.1														
	M	25	3:22 0.0	9:30 1.3	15:45 -0.1	22:00 1.3	Th	25	4:29 -0.1	10:58 1.4	17:20 0.1	23:10 1.1	Th	25	3:10 -0.2	9:35 1.5	16:05 0.0	21:52 1.1														
	Tu	26	4:12 -0.1	10:25 1.3	16:42 0.0	22:50 1.2	○ F	26	5:17 -0.1	11:49 1.4	18:20 0.2		○ F	26	3:57 -0.1	10:27 1.4	16:58 0.1	22:42 1.0														
	W	27	5:00 -0.1	11:20 1.3	17:40 0.1	23:40 1.1	S	27	0:01 1.0	6:09 0.0	12:46 1.3	19:27 0.2	S	27	4:47 0.0	11:21 1.4	17:57 0.2	23:39 0.9														
	D	Th	28	5:50 -0.1	12:16 1.3	18:45 0.2		S	28	1:00 0.9	7:05 0.0	13:46 1.3	20:36 0.3	○ S	28	5:41 0.0	12:16 1.3	19:00 0.2														
F		29	0:30 1.0	6:40 -0.1	13:15 1.3	19:52 0.2	N	M	29									M	29	0:43 0.9	6:40 0.1	13:15 1.2	20:05 0.2									
S		30	1:25 1.0	7:32 -0.1	14:14 1.3	21:05 0.3				Tu	30	1:55 0.9	7:47 0.2	14:14 1.2	21:09 0.2																	
S		31	2:20 0.9	8:30 0.0	15:10 1.3	22:15 0.3				W	31	3:04 0.9	8:52 0.2	15:10 1.2	22:01 0.2																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern, Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	4:03	9:54	16:03	22:45	0.9	0.2	1.2	0.1	E	S	1	4:24	10:35	16:24	22:40	1.0	0.2	1.1	0.0	O	Tu	1	5:00	11:26	16:52	23:06	1.3	0.2	1.0	-0.1
	F	2	4:53	10:50	16:56	23:25	1.0	0.1	1.2	0.1		S	2	4:58	11:15	17:05	23:15	1.1	0.1	1.1	0.0		W	2	5:40	12:08	17:30	23:45	1.4	0.2	1.0	-0.1
	S	3	5:30	11:40	17:45	24:00	1.1	0.1	1.2	0.1		M	3	5:32	11:53	17:42	23:50	1.2	0.1	1.1	0.0		Th	3	6:25	12:50	18:07	24:15	1.4	0.2	1.0	0.0
	S	4	6:01	12:15	18:28	24:25	0.0	1.1	0.1	1.2		Tu	4	6:10	12:32	18:16	24:00	1.3	0.1	1.1	0.0		F	4	7:08	13:07	18:30	24:48	1.4	0.2	1.0	0.0
	M	5	6:36	12:48	18:52	24:50	0.0	1.2	0.0	1.1		W	5	6:25	12:53	18:15	24:50	-0.1	1.4	0.1	1.0		S	5	7:55	13:14	18:53	25:23	-0.1	1.5	0.2	1.0
E	Tu	6	7:10	13:22	19:37	25:15	0.0	1.2	0.0	1.1	O	Th	6	7:00	13:32	19:54	25:26	-0.1	1.4	0.1	1.0	S	S	6	8:42	14:57	20:24	26:24	-0.1	1.4	0.1	1.0
	W	7	7:43	13:58	20:09	25:40	0.0	1.3	0.1	1.1		F	7	7:42	13:58	20:02	26:02	-0.1	1.4	0.1	1.0		M	7	9:30	15:45	21:20	27:20	-0.1	1.4	0.1	1.0
	Th	8	8:17	14:30	20:42	26:05	0.0	1.3	0.1	1.1		S	8	8:20	14:30	20:45	26:45	-0.1	1.4	0.1	1.0		Tu	8	10:20	16:33	22:24	28:24	0.0	1.3	0.1	1.0
	F	9	8:53	15:07	21:18	26:30	0.0	1.3	0.1	1.0		S	9	8:05	14:50	21:35	27:35	0.0	1.4	0.2	1.0		W	9	11:10	17:22	23:30	29:30	0.0	1.2	0.1	1.1
	S	10	9:33	15:30	21:58	27:00	0.0	1.3	0.2	1.0		M	10	8:55	15:40	22:30	28:30	0.0	1.3	0.2	1.0	C	Th	10	12:02	18:15	24:30	30:30	0.1	1.2	0.1	1.1
S	S	11	10:19	16:01	22:47	27:47	0.0	1.3	0.2	1.0	C	Tu	11	9:50	16:30	23:35	29:35	0.0	1.3	0.2	1.0		F	11	1:00	18:48	24:55	30:55	0.1	1.1	0.1	1.1
	M	12	11:01	16:54	23:43	28:49	0.0	1.2	0.2	0.9		W	12	10:40	17:25	24:35	30:35	0.1	1.2	0.2	1.0		S	12	1:28	19:15	25:58	31:58	1.2	0.1	1.1	0.0
	Tu	13	11:48	17:51	24:51	29:57	0.1	1.2	0.2	0.8		Th	13	11:30	18:10	25:40	31:40	1.0	0.1	1.1	0.1		S	13	2:30	20:02	26:50	32:50	1.3	0.1	1.0	-0.1
	W	14	12:30	18:45	26:00	30:00	1.0	0.1	1.2	0.2		F	14	12:20	19:00	26:30	32:30	1.1	0.1	1.1	0.1		M	14	3:28	20:55	27:42	33:42	1.4	0.1	1.0	-0.1
	P	Th	15	1:05	19:30	27:00	31:00	1.0	0.1	1.1	0.2	E	S	15	1:20	19:20	27:20	31:20	1.2	0.1	1.1	0.0	N	Tu	15	4:20	21:00	28:30	34:30	1.5	0.1	1.0	-0.1
F		16	2:10	20:30	28:00	32:00	1.1	0.0	1.1	0.1	S		16	2:40	20:20	28:20	32:20	1.3	0.0	1.1	-0.1	W		16	5:15	21:58	29:28	35:28	1.5	0.1	1.0	-0.2
S		17	3:10	21:30	29:00	33:00	1.2	0.0	1.1	0.0	M		17	3:40	21:10	29:10	33:10	1.4	0.0	1.1	-0.1	Th		17	6:05	22:50	30:20	36:20	1.6	0.1	1.0	0.0
S		18	4:10	22:30	30:00	34:00	1.4	-0.1	1.2	-0.1	Tu		18	4:40	22:10	30:10	34:10	1.5	0.0	1.0	-0.2	F		18	7:15	23:50	31:20	37:20	1.6	0.1	1.0	0.0
N		M	19	5:15	23:30	31:00	35:00	1.5	-0.1	1.2	0.0	●	W	19	5:20	23:10	31:10	35:10	1.6	0.0	1.0	0.0	●	S	19	8:15	24:50	32:20	38:20	1.8	0.1	1.0	0.0
	Tu	20	6:20	24:30	32:00	36:00	0.2	1.5	-0.1	1.1	Th		20	6:40	24:10	32:10	36:10	-0.2	1.6	0.0	1.0	S		20	9:15	25:40	33:10	39:10	2.0	0.1	1.0	0.0
	W	21	7:20	25:30	33:00	37:00	-0.2	1.6	-0.1	1.1	F		21	7:40	24:50	33:00	37:00	-0.2	1.6	0.0	1.0	M		21	10:15	26:30	34:00	40:00	2.4	0.1	1.0	0.0
	Th	22	8:20	26:30	34:00	38:00	-0.2	1.6	0.0	1.1	S		22	8:40	25:50	34:00	38:00	-0.1	1.5	0.1	1.0	Tu		22	11:15	27:20	35:00	41:00	2.8	0.1	1.0	0.0
	A	F	23	9:20	27:30	35:00	39:00	-0.1	1.5	0.0	1.0	S	S	23	9:40	26:50	35:00	39:00	0.0	1.4	0.1	0.9	W	W	23	12:15	28:10	36:00	42:00	3.2	0.2	0.1	0.9
S		24	10:20	28:30	36:00	40:00	-0.1	1.5	0.1	1.0	M		24	10:40	27:10	36:00	40:00	0.1	1.4	0.1	0.9	Th		24	1:10	29:00	37:00	43:00	3.6	0.2	0.1	0.9
S		25	11:20	29:30	37:00	41:00	0.0	1.4	0.1	0.9	Tu		25	11:40	28:10	37:00	41:00	0.2	1.3	0.1	0.8	F		25	2:05	30:00	38:00	44:00	4.0	0.3	0.1	0.0
M		26	12:20	30:30	38:00	42:00	0.1	1.3	0.2	0.8	W		26	12:40	29:10	38:00	42:00	0.9	0.2	1.2	0.1	S		26	3:00	31:00	39:00	45:00	4.4	0.3	0.1	0.0
D		Tu	27	1:20	31:30	39:00	43:00	0.9	0.2	1.2	0.1	D	Th	27	1:15	30:50	39:00	43:00	0.9	0.3	1.1	0.1	E	S	27	4:00	32:00	40:00	46:00	4.8	0.3	0.1	0.0
	W	28	2:20	32:30	40:00	44:00	1.4	0.2	1.1	0.1	F		28	2:15	31:10	40:00	44:00	2.15	0.3	1.1	0.1	M		28	5:00	33:00	41:00	47:00	5.2	0.4	0.1	0.0
	Th	29	3:20	33:30	41:00	45:00	0.9	0.2	1.1	0.1	S		29	3:00	32:10	41:00	45:00	3.00	0.3	1.1	0.0	Tu		29	6:00	34:00	42:00	48:00	5.6	0.3	0.1	0.0
	F	30	4:20	34:30	42:00	46:00	1.0	0.2	1.1	0.1	S		30	4:00	33:10	42:00	46:00	3.36	0.2	1.0	0.0	W		30	7:00	35:00	43:00	49:00	6.0	0.3	0.1	0.0
	A										M	31	5:17	35:10	43:00	47:00	4.17	0.2	1.0	0.0												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
O	Th	1	5:10 1.4	11:35 0.2	16:50 1.0	23:15 -0.1	○	S	1	6:23 1.4	12:40 0.1	18:15 1.1	P	W	1	1:24 -0.2	7:42 1.3	13:47 0.0	19:56 1.4										
	F	2	5:58 1.4	12:20 0.2	17:36 1.0			M	2	0:40 -0.2	7:10 1.4	13:25 0.1	E	Th	2	2:18 -0.2	8:27 1.3	14:32 -0.1	20:45 1.4										
	S	3	0:03 -0.2	6:45 1.5	13:05 0.2	18:28 1.0	P	Tu	3	1:32 -0.2	8:00 1.4	14:10 0.0		F	3	3:08 -0.1	9:12 1.2	15:17 -0.1	21:33 1.4										
	S	4	0:55 -0.2	7:32 1.5	13:50 0.1	19:20 1.0		W	4	2:25 -0.2	8:47 1.3	15:00 0.0		S	4	4:00 -0.1	9:58 1.2	16:03 -0.1	22:26 1.4										
	M	5	1:45 -0.1	8:20 1.4	14:34 0.1	20:15 1.1	E	Th	5	3:20 -0.1	9:40 1.3	15:45 0.0		S	5	4:54 0.0	10:46 1.1	16:52 -0.1	23:22 1.4										
P	Tu	6	2:35 -0.1	9:10 1.4	15:20 0.1	21:15 1.1		F	6	4:15 -0.1	10:25 1.2	16:30 -0.1	☾	M	6	5:52 0.1	11:38 1.0	17:44 0.0											
	W	7	3:30 -0.1	9:55 1.3	16:08 0.0	22:15 1.2		S	7	5:10 0.0	11:14 1.1	17:20 -0.1		Tu	7	0:19 1.4	6:58 0.2	12:36 0.9	18:40 0.0										
	Th	8	4:27 0.0	10:46 1.2	16:58 0.0	23:12 1.2	☾	S	8	6:10 0.1	12:00 1.0	18:08 -0.1	N	W	8	1:18 1.8	8:02 0.2	13:42 0.9	19:42 0.1										
	F	9	5:30 0.0	11:40 1.1	17:50 0.0			M	9	0:44 1.8	7:10 0.2	12:54 1.0		Th	9	2:18 1.8	9:10 0.2	14:53 0.9	20:47 0.1										
	S	10	0:06 1.3	6:30 0.1	12:30 1.1	18:38 0.0		Tu	10	1:42 1.3	8:20 0.2	13:50 0.9		F	10	3:18 1.2	10:10 0.2	15:58 0.9	21:50 0.1										
C	S	11	1:10 1.3	7:35 0.1	13:22 1.0	19:32 -0.1		W	11	2:40 1.3	9:30 0.2	14:54 0.9		S	11	4:14 1.2	11:01 0.2	16:48 1.0	22:50 0.1										
	M	12	2:10 1.3	8:44 0.2	14:20 1.0	20:24 -0.1	N	Th	12	3:40 1.3	10:35 0.2	15:57 0.9		S	12	5:05 1.2	11:45 0.1	17:46 1.0	23:45 0.0										
	Tu	13	3:05 1.4	9:52 0.2	15:10 0.9	21:18 -0.1		F	13	4:32 1.3	11:30 0.2	17:00 0.9		M	13	5:53 1.2	12:25 0.1	18:30 1.1											
	W	14	4:00 1.4	10:55 0.2	16:08 0.9	22:14 -0.1		S	14	5:24 1.3	12:15 0.2	17:55 1.0	●	Tu	14	0:35 0.0	6:42 1.2	13:02 0.0	19:11 1.1										
	Th	15	4:56 1.4	11:50 0.2	17:04 0.9	23:05 -0.1	●	S	15	6:12 1.3	12:55 0.1	18:45 1.0		W	15	1:20 0.0	7:23 1.2	13:37 0.0	19:50 1.2										
N	F	16	5:44 1.4	12:40 0.2	18:00 0.9	23:58 -0.1		M	16	0:40 0.0	7:00 1.8	13:40 0.1	E	Th	16	2:02 0.0	8:01 1.2	14:12 0.0	20:25 1.2										
	S	17	6:34 1.4	13:25 0.1	18:54 0.9			Tu	17	1:32 0.0	7:44 1.3	14:16 0.0	A	F	17	2:38 0.1	8:36 1.1	14:46 0.0	21:00 1.2										
	S	18	0:50 -0.1	7:20 1.4	14:05 0.1	19:45 1.0		W	18	2:20 0.0	8:30 1.3	14:58 0.0		S	18	3:15 0.1	9:10 1.1	15:20 0.0	21:41 1.3										
	M	19	1:40 0.0	8:05 1.4	14:45 0.1	20:36 1.0	A	Th	19	3:05 0.1	9:18 1.2	15:30 0.0		S	19	3:55 0.1	9:45 1.0	15:55 0.0	22:25 1.3										
	Tu	20	2:32 0.0	8:50 1.4	15:25 0.1	21:25 1.0	E	F	20	3:49 0.1	9:52 1.2	16:05 0.0		M	20	4:36 0.2	10:20 1.0	16:36 0.0	23:13 1.2										
A	W	21	3:20 0.1	9:35 1.3	16:10 0.0	22:14 1.0		S	21	4:32 0.2	10:29 1.1	16:43 0.0		Tu	21	5:22 0.2	10:58 0.9	17:22 0.0											
	Th	22	4:10 0.1	10:24 1.2	16:50 0.0	23:00 1.0		S	22	5:10 0.2	11:05 1.0	17:20 0.0	☾	W	22	0:05 1.2	6:13 0.3	11:43 0.9	18:13 0.1										
	F	23	5:00 0.2	11:05 1.2	17:30 0.0	23:48 1.0	☾	M	23	5:58 0.3	11:42 1.0	18:02 0.0	S	Th	23	1:00 1.2	7:10 0.3	12:41 0.9	19:13 0.1										
	S	24	5:50 0.2	11:48 1.1	18:08 0.0			Tu	24	0:39 1.2	6:45 0.3	12:22 0.9		F	24	1:57 1.2	8:08 0.3	13:49 0.9	20:17 0.0										
	S	25	0:30 1.1	6:40 0.3	12:26 1.0	18:48 0.0		W	25	1:32 1.2	7:44 0.3	13:10 0.9		S	25	2:55 1.2	9:08 0.3	14:58 1.0	21:22 0.0										
D	M	26	1:16 1.1	7:25 0.3	13:05 1.0	19:32 0.0		Th	26	2:28 1.2	8:48 0.3	14:06 0.9		S	26	3:50 1.2	10:05 0.2	16:00 1.0	22:23 -0.1										
	Tu	27	2:06 1.2	8:20 0.3	13:50 0.9	20:17 0.0	S	F	27	3:24 1.2	9:42 0.3	15:10 0.9		M	27	4:47 1.2	11:00 0.1	16:58 1.2	23:23 -0.1										
	W	28	3:00 1.2	9:16 0.3	14:35 0.9	21:08 0.0		S	28	4:19 1.3	10:38 0.2	16:12 1.0	○	Tu	28	5:41 1.2	11:46 0.0	17:53 1.4											
	Th	29	3:50 1.3	10:12 0.3	15:26 0.9	22:00 -0.1		S	29	5:12 1.3	11:28 0.2	17:12 1.1	P	W	29	0:18 -0.2	6:28 1.2	12:31 -0.1	18:48 1.5										
	F	30	4:42 1.3	11:06 0.3	16:20 1.0	22:52 -0.1		M	30	6:01 1.3	12:17 0.1	18:07 1.2		Th	30	1:10 -0.2	7:18 1.2	13:15 -0.1	19:25 1.6										
	S	31	5:34 1.4	11:55 0.2	17:18 1.0	23:45 -0.2	○	Tu	31	0:30 -0.2	6:52 1.3	13:02 0.0																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon, (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.					W.	Mo.					W.	Mo.					
N	F	1	2:00	7:55	14:00	20:20	M	1	3:25	9:02	15:08	21:40	W	1	4:00	9:45	15:40	22:10	
			—0.1	1.2	—0.2	1.6			0.0	1.0	—0.1	1.5			0.1	1.0	0.0	1.4	
	S	2	2:50	8:40	14:45	21:12	Tu	2	4:18	9:58	16:00	22:32	Th	2	4:50	10:48	16:40	23:00	
			—0.1	1.2	—0.2	1.6			0.1	1.0	0.0	1.4			0.1	0.9	0.1	1.3	
	S	3	3:44	9:30	15:30	22:06	W	3	5:13	11:00	16:58	23:26	F	3	5:44	11:54	17:42	23:53	
C			0.0	1.1	—0.1	1.5			0.1	0.9	0.1	1.3			0.1	0.9	0.2	1.2	
	M	4	4:36	10:20	16:22	23:00	Th	4	6:12	12:10	18:00	24:10	S	4	6:36	13:00	18:50	24:56	
			0.0	1.0	—0.1	1.4			0.1	0.9	0.1	1.3			0.1	1.0	0.2	1.1	
	Tu	5	5:33	11:15	17:17	23:54	F	5	7:04	13:02	19:10	25:10	S	5	7:28	13:56	19:56	25:56	
			0.1	1.0	0.0	1.3			1.2	0.1	0.9	0.2			1.2	0.0	1.0	0.2	
A	W	6	6:35	12:20	18:18	24:42	S	6	8:06	14:28	20:22	26:22	E	M	6	8:14	14:46	20:58	26:58
			0.2	0.9	0.1	1.2			1.2	0.1	1.0	0.2			1.1	0.0	1.0	0.3	
	Th	7	7:32	13:18	19:16	25:16	S	7	8:56	15:24	21:30	27:10	A	Tu	7	8:56	15:26	21:50	27:50
			1.3	0.2	0.9	0.1			1.1	0.1	1.0	0.2			1.1	0.0	1.1	0.2	
	F	8	8:30	14:16	20:14	26:04	M	8	9:42	16:10	22:25	28:00	W	8	9:36	16:08	22:40	28:40	
E			1.2	0.2	0.9	0.1			1.1	0.0	1.1	0.2			1.0	0.0	1.2	0.2	
	S	9	9:28	15:14	21:12	26:52	Tu	9	10:36	17:04	23:10	29:00	Th	9	10:16	16:50	23:25	29:25	
			1.2	0.1	1.0	0.1			1.1	0.0	1.1	0.1			1.0	—0.1	1.3	0.2	
	S	10	10:26	16:12	22:10	27:42	W	10	11:30	17:58	24:00	30:00	F	10	10:54	17:30	23:40	30:40	
			1.2	0.1	1.0	0.1			1.1	0.0	1.2	0.1			1.0	—0.1	1.3	0.1	
V	M	11	11:24	17:12	23:10	28:30	Th	11	12:24	18:12	24:10	31:00	S	11	11:32	18:00	23:50	31:30	
			1.2	0.0	1.1	0.1			1.1	—0.1	1.3	0.1			0.2	0.9	—0.1	1.4	
	Tu	12	12:24	18:12	24:10	31:00	F	12	13:24	19:12	25:10	32:00	S	12	12:32	19:00	24:00	32:30	
			1.2	0.0	1.2	0.1			0.30	6:04	12:10	18:40			0.46	5:55	12:15	18:55	
	W	13	13:24	19:12	25:10	32:00	S	13	14:24	20:12	26:10	33:00	M	13	13:40	20:25	24:00	33:30	
A			0.18	6:10	12:20	18:35			0.1	1.0	—0.1	1.4			0.2	0.9	—0.1	1.4	
	Th	14	14:24	20:12	26:10	33:00	S	14	15:24	21:12	27:10	34:00	Tu	14	14:46	20:58	24:00	34:30	
			0.1	1.1	0.0	1.3			0.1	1.0	—0.1	1.4			0.2	0.9	—0.1	1.4	
	F	15	15:24	21:12	27:10	34:00	M	15	16:24	22:10	28:10	35:00	W	15	15:56	21:50	25:00	35:30	
			0.1	1.1	—0.1	1.3			0.1	1.0	—0.1	1.4			0.2	1.0	—0.1	1.4	
S	S	16	16:24	22:10	28:10	35:00	Tu	16	17:24	23:10	29:10	36:00	Th	16	17:00	22:40	26:00	36:30	
			2:10	7:55	14:05	20:25			3:06	8:28	14:50	21:32			3:30	9:00	15:20	22:00	
	S	17	2:48	8:30	14:38	21:10	W	17	3:50	9:15	15:40	22:20	F	17	4:15	10:00	16:15	22:50	
			0.1	1.0	0.0	1.4			0.2	1.0	0.0	1.3			0.1	1.0	0.0	1.2	
	M	18	3:30	9:05	15:18	21:56	Th	18	4:35	10:10	16:32	23:10	S	18	5:00	11:05	17:15	23:40	
S			0.1	1.0	0.0	1.3			0.2	1.0	0.0	1.3			0.1	1.1	0.0	1.2	
	Tu	19	4:10	9:42	16:00	22:45	F	19	5:26	11:15	17:30	24:00	S	19	5:52	12:06	18:20	24:50	
			0.2	1.0	0.0	1.3			0.2	1.0	0.1	1.4			0.1	1.1	0.1	1.1	
	W	20	4:56	10:30	16:50	23:35	S	20	6:18	12:25	18:35	25:00	E	M	20	6:47	13:00	19:25	25:50
			0.2	0.9	0.0	1.2			1.2	0.2	1.0	0.1			1.1	0.1	1.2	0.1	
D	Th	21	5:50	11:26	17:46	24:30	S	21	7:10	13:28	19:45	26:00	Tu	21	7:35	14:02	20:30	26:30	
			0.2	0.9	0.1	1.1			1.1	0.1	1.1	0.1			1.1	0.0	1.3	0.1	
	F	22	6:30	12:12	18:30	25:15	M	22	8:10	14:22	20:50	27:00	W	22	8:26	15:00	21:35	27:35	
			1.2	0.2	0.9	0.1			1.1	0.1	1.2	0.1			1.0	—0.1	1.4	0.1	
	S	23	7:12	13:12	19:30	26:00	Th	23	9:10	15:20	21:54	28:00	P	Th	23	9:20	15:57	22:35	28:35
P			1.2	0.2	1.0	0.1			1.1	0.0	1.3	0.1			1.0	—0.1	1.4	0.1	
	S	24	8:04	14:14	20:30	26:50	W	24	10:10	16:20	22:54	29:00	F	24	10:10	16:50	23:34	29:34	
			1.1	0.2	1.1	0.0			1.1	—0.1	1.4	0.0			1.0	—0.2	1.5	0.1	
	M	25	9:04	15:14	21:30	27:40	Th	25	11:10	17:20	23:54	30:00	S	25	11:00	17:40	24:10	30:40	
			1.1	0.1	1.2	0.0			1.0	—0.1	1.5	0.0			1.0	—0.2	1.6	0.1	
E	Tu	26	10:04	16:14	22:30	28:30	F	26	12:10	18:00	25:00	31:00	O	S	26	11:55	18:30	24:50	31:20
			1.1	0.0	1.4	—0.1			1.0	—0.2	1.6	0.1			0.1	1.0	—0.2	1.5	
	W	27	11:04	17:14	23:30	29:20	S	27	13:10	19:00	26:00	32:00	N	M	27	12:45	19:20	25:50	32:10
			1.1	—0.1	1.5	0.0			0.0	1.0	—0.2	1.6			0.1	1.0	—0.1	1.5	
	Th	28	12:04	18:14	24:30	30:10	S	28	14:10	20:00	27:00	33:00	Tu	28	13:40	20:25	26:00	33:10	
N			—0.1	1.1	—0.2	1.6			0.0	1.0	—0.2	1.6			0.1	1.0	—0.1	1.5	
	F	29	1:04	19:14	25:30	31:00	M	29	15:10	21:00	28:00	34:00	W	29	14:32	21:00	27:00	34:10	
			—0.1	1.1	—0.2	1.6			0.0	1.0	—0.1	1.6			0.1	1.0	0.0	1.4	
	S	30	2:04	20:14	26:30	31:50	Tu	30	16:10	22:00	29:00	35:00	Th	30	15:28	22:00	28:00	35:10	
			—0.1	1.1	—0.2	1.6			0.0	1.0	—0.1	1.6			0.0	1.0	0.0	1.3	
P	S	31	3:04	21:14	27:30	32:40			0.0	1.0	—0.1	1.6			4:25	10:28	16:22	22:35	35:20
			0.0	1.1	—0.2	1.6									0.0	1.0	0.1	1.3	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th Meridian West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
O N	F	1	3:30 2.6	9:55 0.1	15:54 3.0	22:42 0.0					N	M	1	5:13 2.4	11:25 0.1	17:26 2.9					N	M	1	3:45 2.4	10:08 0.2	16:08 2.8	23:00 0.2					
	S	2	4:32 2.5	10:52 0.0	16:53 3.0	23:41 0.0					N	Tu	2	0:17 0.0	6:10 2.5	12:22 0.1	18:20 2.9					N	Tu	2	4:48 2.4	11:10 0.2	17:12 2.8	23:55 0.1				
	S	3	5:32 2.5	11:45 0.0	17:45 3.0						W	3	1:06 0.0	7:00 2.5	13:14 0.0	19:08 2.9					W	3	5:47 2.4	12:05 0.1	18:02 2.8							
	M	4	0:33 -0.1	6:37 2.6	12:38 0.0	18:37 3.1					Th	4	1:53 -0.1	7:47 2.6	14:00 0.0	19:53 3.0					Th	4	0:45 0.1	6:35 2.5	12:57 0.0	18:48 2.8						
	Tu	5	1:24 -0.2	7:18 2.6	13:28 0.0	19:26 3.1					F	5	2:35 -0.1	8:27 2.7	14:45 0.0	20:35 3.0					F	5	1:30 0.0	7:18 2.6	13:41 0.0	19:32 2.9						
	W	6	2:10 -0.2	8:06 2.6	14:17 0.0	20:12 3.1					S	6	3:35 -0.1	9:05 2.7	15:28 0.0	21:14 2.9					S	6	2:08 0.0	7:55 2.7	13:23 0.0	20:12 2.9						
	Th	7	2:55 -0.2	8:48 2.7	15:08 0.0	20:55 3.0					S	7	3:52 -0.1	9:40 2.8	16:07 0.0	21:53 2.9					A S	7	2:44 0.0	8:32 2.8	15:00 0.0	20:48 2.9						
	F	8	3:38 -0.2	9:32 2.7	15:50 0.0	21:38 3.0					A M	8	4:27 0.0	10:17 2.9	16:45 0.1	22:32 2.9					M	8	3:19 0.0	9:06 2.9	15:36 0.0	21:26 2.9						
	S	9	4:18 -0.1	10:10 2.7	16:38 0.1	22:20 2.9					E Tu	9	5:02 0.0	10:52 2.9	17:25 0.1	23:12 2.8					E Tu	9	3:50 0.0	9:40 3.0	16:13 0.0	22:02 2.9						
	S	10	5:00 -0.1	10:52 2.8	17:17 0.2	23:02 2.8					W	10	5:36 0.1	11:32 2.9	18:05 0.2	23:50 2.7					W	10	4:23 0.1	10:16 3.0	16:50 0.0	22:37 2.8						
A	M	11	5:40 0.0	11:30 2.8	18:02 0.3	23:44 2.7				Th	11	6:12 0.2	12:12 2.9	18:50 0.2					Th	11	4:53 0.2	10:52 3.0	17:30 0.0	23:16 2.7								
Tu	12	6:20 0.1	12:12 2.8	18:47 0.3						F	12	0:32 2.6	6:49 0.3	12:57 2.9	19:40 0.2					F	12	5:26 0.3	11:33 3.0	18:15 0.1	23:57 2.6							
E	W	13	0:28 2.7	7:00 0.2	12:55 2.8	19:35 0.3				C	S	13	1:18 2.5	7:29 0.4	13:45 2.9	20:36 0.2					S	13	6:04 0.3	12:18 3.0	19:05 0.1							
C	Th	14	1:13 2.6	7:41 0.3	13:40 2.8	20:24 0.3				S	14	2:10 2.4	8:20 0.5	14:40 2.9	21:35 0.2					C S	14	0:45 2.5	6:48 0.4	13:10 2.9	20:02 0.2							
F	15	2:02 2.3	8:22 0.4	14:28 2.8	21:17 0.3					M	15	3:10 2.4	9:22 0.5	15:39 2.9	22:36 0.1					M	15	1:38 2.4	7:45 0.5	14:07 2.9	21:04 0.2							
S	16	2:58 2.4	9:10 0.4	15:18 2.9	22:14 0.2					S Tu	16	4:14 2.4	10:28 0.4	16:39 3.0	23:35 0.0					S	16	2:40 2.4	8:55 0.5	15:12 2.8	22:08 0.2							
S	17	3:49 2.4	10:02 0.4	16:12 3.0	23:06 0.1					W	17	5:18 2.5	11:33 0.3	17:40 3.1					W	17	3:50 2.4	10:10 0.4	16:16 2.9	23:10 0.1								
M	18	4:50 2.9	10:58 0.4	17:07 3.0						Th	18	0:32 -0.1	6:17 2.6	12:34 0.1	18:37 3.2					Th	18	4:56 2.5	11:18 0.2	17:20 3.0								
Tu	19	0:01 0.0	5:45 2.9	11:53 0.3	18:02 3.1					F	19	1:23 -0.2	7:13 2.8	13:32 -0.1	19:32 3.3					F	19	0:08 0.0	5:55 2.7	12:20 0.0	18:20 3.1							
W	20	0:55 -0.1	6:41 2.8	12:50 0.2	18:55 3.3					P S	20	2:14 -0.3	8:05 3.0	14:24 -0.2	20:24 3.3					S	20	1:00 -0.2	6:49 3.0	13:17 -0.2	19:15 3.2							
Th	21	1:46 -0.2	7:34 2.7	13:43 0.1	19:47 3.3					S	21	3:01 -0.4	8:54 3.1	15:17 -0.3	21:15 3.4					P S	21	1:48 -0.3	7:40 3.2	14:10 0.4	20:06 3.3							
F	22	2:35 -0.3	8:24 2.8	14:37 0.0	20:40 3.3					E M	22	3:52 -0.4	9:42 3.3	16:08 -0.4	22:17 3.3					E M	22	2:35 -0.4	8:28 3.3	15:00 -0.4	20:55 3.3							
S	23	3:24 -0.4	9:13 2.9	15:30 -0.1	21:30 3.3					Tu	23	4:34 -0.4	10:30 3.3	17:00 -0.3	22:55 3.2					Tu	23	3:21 -0.4	9:16 3.4	15:50 -0.5	21:46 3.3							
S	24	4:12 -0.4	10:04 3.0	16:22 -0.1	22:22 3.3					W	24	5:22 -0.3	11:19 3.3	17:55 -0.2	23:47 3.0					W	24	4:07 -0.4	10:04 3.3	16:40 -0.5	22:35 3.1							
M	25	5:00 -0.3	10:52 3.1	17:18 -0.1	23:15 3.2					Th	25	6:12 -0.2	12:12 3.2	18:50 -0.1					Th	25	4:55 -0.3	10:53 3.3	17:32 -0.3	23:24 3.0								
Tu	26	5:48 -0.2	11:45 3.1	18:15 -0.1						D F	26	0:40 2.8	7:05 0.0	13:06 3.1	19:50 0.0					F	26	5:45 -0.2	11:45 3.2	18:27 -0.2								
W	27	0:08 3.0	6:39 -0.1	12:37 3.1	19:13 0.0					S	27	1:37 2.6	8:02 0.1	14:04 3.0	20:52 0.1					S	27	0:16 2.8	6:40 0.0	12:40 3.1	19:24 0.0							
Th	28	1:08 2.9	7:32 0.0	13:33 3.0	20:14 0.0					S	28	2:38 2.5	9:04 0.2	15:05 2.8	21:56 0.2					D S	28	1:12 2.6	7:38 0.2	13:38 2.9	20:25 0.1							
F	29	2:02 2.6	8:28 0.1	14:30 3.0	21:18 0.1														M	29	2:13 2.5	8:43 0.2	14:38 2.7	21:28 0.1								
S	30	3:04 2.6	9:28 0.1	15:30 2.9	22:20 0.1														Tu	30	3:18 2.4	9:47 0.3	15:44 2.7	22:32 0.2								
S	31	4:10 2.4	10:27 0.1	16:30 2.9	23:21 0.1														W	31	4:18 2.4	10:49 0.2	16:42 2.6	23:25 0.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	5:13 2.5	11:46 0.1	17:35 2.7					E	S	1	5:20 2.7	12:02 0.1	17:51 2.6					C	Tu	1	0:09 0.3	5:57 2.9	12:48 0.0	18:35 2.5						
	F	2	0:15 0.1	6:00 2.6	12:35 0.1	18:25 2.7					S	2	0:14 0.1	6:02 2.8	12:45 0.0	18:34 2.6					W	2	0:47 0.3	6:38 3.0	13:29 -0.1	19:17 2.6						
	S	3	0:56 0.1	6:41 2.7	13:17 0.0	19:06 2.8					M	3	0:53 0.1	6:38 2.9	13:23 0.0	19:12 2.7					Th	3	1:26 0.2	7:22 3.1	14:12 -0.2	19:58 2.6						
	S	4	1:34 0.0	7:18 2.8	13:55 0.0	19:46 2.8					Tu	4	1:28 0.1	7:16 3.0	14:00 -0.1	19:50 2.7					F	4	2:02 0.2	8:03 3.2	14:57 -0.3	20:41 2.7						
	M	5	2:08 0.0	7:53 2.9	14:32 0.1	20:22 2.8					W	5	2:02 0.2	7:52 3.1	14:38 -0.2	20:27 2.7					S	5	2:43 0.2	8:48 3.2	15:40 -0.3	21:25 2.7						
C	Tu	6	2:41 0.0	8:30 3.0	15:06 -0.1	20:55 2.8					S	Th	6	2:35 0.2	8:30 3.1	15:18 -0.2	21:03 2.7					E	S	6	3:27 0.3	9:35 3.2	16:24 -0.2	22:12 2.7				
	W	7	3:12 0.1	9:02 3.1	15:44 -0.2	21:32 2.8						F	7	3:08 0.2	9:10 3.2	16:00 -0.2	21:43 2.7						M	7	4:16 0.3	10:22 3.1	17:13 -0.2	23:00 2.7				
	Th	8	3:42 0.2	9:38 3.1	16:23 -0.1	22:10 2.8						S	8	3:45 0.3	9:53 3.2	16:42 -0.2	22:27 2.7						Tu	8	5:10 0.3	11:14 3.0	18:04 -0.1	23:53 2.7				
	F	9	4:14 0.2	10:20 3.1	17:04 -0.1	22:48 2.7						S	9	4:26 0.3	10:40 3.1	17:30 -0.1	23:15 2.6						W	9	6:10 0.3	12:08 2.9	18:57 0.0					
	S	10	4:50 0.3	11:02 3.1	17:48 0.0	23:32 2.6						M	10	5:15 0.4	11:30 3.0	18:20 0.0							Th	10	0:49 2.8	7:14 0.3	13:08 2.8	19:52 0.1				
S	S	11	5:32 0.3	11:50 3.0	18:40 0.1					C	Tu	11	0:07 2.6	6:13 0.4	12:23 2.9	19:18 0.1					E	F	11	1:47 2.8	8:22 0.3	14:12 2.7	20:46 0.1					
	M	12	0:22 2.5	6:23 0.4	12:43 2.9	19:37 0.2					W	12	1:04 2.6	7:23 0.4	13:25 2.8	20:16 0.2						S	12	2:47 2.9	9:28 0.2	15:14 2.7	21:45 0.1					
	Tu	13	1:18 2.5	7:28 0.5	13:42 2.8	20:43 0.2					Th	13	2:06 2.6	8:35 0.4	14:29 2.7	21:16 0.2						S	13	3:45 3.0	10:31 0.1	16:19 2.6	22:42 0.1					
	W	14	2:22 2.4	8:43 0.5	14:48 2.8	21:44 0.2					F	14	3:08 2.7	9:46 0.3	15:37 2.7	22:16 0.1						M	14	4:45 3.0	11:28 -0.1	17:20 2.7	23:35 0.0					
	Th	15	3:29 2.5	9:58 0.3	15:58 2.8	22:44 0.1					S	15	4:08 2.9	10:48 0.1	16:40 2.8	23:12 0.1						Tu	15	5:37 3.1	12:24 -0.2	18:18 2.7						
P	F	16	4:32 2.7	11:07 0.1	17:01 2.9	23:40 0.0					E	S	16	5:05 3.0	11:48 -0.1	17:40 2.8						C	W	16	0:28 -0.1	6:29 3.2	18:18 -0.3	19:08 2.7				
	S	17	5:30 2.9	12:05 -0.1	18:00 3.0							M	17	0:04 -0.1	5:58 3.1	12:42 -0.3	18:35 2.9						Th	17	1:20 -0.1	7:20 3.3	14:06 -0.3	20:00 2.8				
	S	18	0:32 -0.1	6:23 3.1	12:59 -0.3	18:56 3.1						Tu	18	0:54 -0.2	6:51 3.3	13:33 -0.4	19:27 2.9						F	18	2:11 -0.2	8:10 3.3	14:53 -0.4	20:47 2.8				
	M	19	1:21 -0.3	7:13 3.3	13:50 -0.4	19:47 3.2						W	19	1:42 -0.2	7:40 3.4	14:22 -0.5	20:17 3.0						S	19	3:00 -0.1	8:58 3.2	15:42 -0.3	21:35 2.8				
	Tu	20	2:08 -0.3	8:03 3.4	14:40 -0.5	20:37 3.1						Th	20	2:30 -0.2	8:28 3.4	15:11 -0.5	21:06 2.9						S	20	3:50 -0.1	9:47 3.2	16:27 -0.3	22:20 2.8				
N	W	21	2:53 -0.4	8:50 3.4	15:30 -0.6	21:25 3.1					S	F	21	3:18 -0.2	9:17 3.4	15:59 -0.4	21:53 2.9					E	M	21	4:40 0.0	10:35 3.0	17:13 -0.2	23:10 2.7				
	Th	22	3:41 -0.3	9:40 3.4	16:18 -0.5	22:14 3.0						S	22	4:08 -0.1	10:16 3.2	16:48 -0.3	22:42 2.8						Tu	22	5:31 0.1	11:19 2.9	18:00 -0.1	23:52 2.7				
	F	23	4:30 -0.2	10:28 3.3	17:10 -0.4	23:02 2.9						S	23	5:00 0.0	10:55 3.1	17:38 -0.2	23:32 2.7						W	23	6:22 0.2	12:07 2.8	18:46 0.1					
	S	24	5:22 -0.1	11:20 3.2	18:01 -0.2	23:54 2.7						M	24	5:54 0.1	11:46 2.9	18:30 -0.1							Th	24	0:38 2.7	7:13 0.3	12:57 2.7	19:32 0.2				
	S	25	6:15 0.1	12:12 3.0	18:58 0.0							Tu	25	0:23 2.7	6:32 0.2	12:40 2.8	19:23 0.1						F	25	1:25 2.7	8:05 0.3	13:45 2.5	20:20 0.2				
D	M	26	0:49 2.6	7:16 0.2	13:10 2.8	19:56 0.1					C	W	26	1:15 2.6	7:50 0.3	13:35 2.6	20:16 0.2					E	S	26	2:12 2.7	9:57 0.3	14:36 2.4	21:06 0.3				
	Tu	27	1:46 2.5	8:20 0.3	14:09 2.7	20:55 0.2						Th	27	2:08 2.6	8:48 0.3	14:30 2.6	21:08 0.2						S	27	2:59 2.7	9:48 0.3	15:27 2.5	21:53 0.4				
	W	28	2:45 2.5	9:22 0.3	15:10 2.6	21:50 0.2						F	28	3:00 2.6	9:45 0.3	15:28 2.5	21:58 0.3						M	28	3:45 2.8	10:37 0.2	16:18 2.4	22:38 0.4				
	Th	29	3:43 2.5	10:22 0.3	16:10 2.5	22:45 0.2						S	29	3:50 2.7	10:37 0.3	16:20 2.4	22:45 0.3						Tu	29	4:32 2.8	11:25 0.1	17:08 2.4	23:22 0.4				
	F	30	4:35 2.6	11:17 0.2	17:05 2.5	23:32 0.2						S	30	4:35 2.7	11:23 0.2	17:08 2.5	23:28 0.3						W	30	5:20 2.9	12:13 0.0	17:57 2.4					
A										E	M	31	5:16 2.8	12:06 0.1	17:53 2.5																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
SO	Th	1	0:07 0.4	6:07 3.1	13:00 -0.1	18:46 2.5	○	S	1	1:23 0.1	7:26 3.2	14:13 -0.3	20:02 2.8	P	W	1	2:51 -0.3	8:50 3.3	15:21 -0.4	21:15 8.3									
	F	2	0:52 0.3	6:56 3.2	13:47 -0.2	19:34 2.6	P	M	2	2:15 0.0	8:15 3.3	15:00 -0.4	20:50 2.9	E	Th	2	3:43 -0.4	9:40 3.8	16:06 -0.4	22:02 8.3									
	S	3	1:40 0.2	7:44 3.2	14:35 -0.3	20:22 2.7		Tu	3	3:07 -0.1	9:06 3.3	15:47 -0.4	21:38 3.0	F	3	4:33 -0.4	10:29 3.2	16:51 -0.3	22:50 8.3										
	S	4	2:27 0.2	8:32 3.3	15:20 -0.3	21:10 2.7		W	4	3:58 -0.1	9:57 3.3	16:32 -0.3	22:27 3.1	S	4	5:25 -0.3	11:19 3.1	17:41 -0.2	23:43 8.3										
	M	5	3:17 0.1	9:22 8.8	16:08 -0.3	21:57 2.8		Th	5	4:50 -0.1	10:47 3.2	17:20 -0.3	23:15 3.2	S	5	6:20 -0.2	12:11 2.9	18:32 0.0											
P	Tu	6	4:08 0.1	10:12 8.2	16:55 -0.3	22:47 2.9	E	F	6	5:45 -0.1	11:40 3.1	18:07 -0.1		○	M	6	7:36 8.1	13:06 -0.1	19:30 2.7	0.1									
	W	7	5:08 0.1	11:02 8.1	17:44 -0.2	23:37 2.9	S	7	0:06 3.2	6:42 -0.1	12:32 2.9	18:58 0.0	N	Tu	7	1:34 8.0	8:20 0.1	14:07 2.5	20:31 0.2										
	Th	8	6:00 0.1	11:56 8.0	18:32 -0.1		○	S	8	1:00 8.1	7:41 0.0	13:28 2.7	19:53 0.1	W	8	2:36 2.9	9:26 0.2	15:14 2.4	21:38 0.2										
	F	9	6:30 8.0	7:00 0.1	12:58 2.9	19:27 0.0	M	9	1:57 3.0	8:44 0.1	14:29 2.5	20:53 0.1	Th	9	3:39 2.8	10:30 0.2	16:20 2.4	22:43 0.2											
	○	S	10	1:26 3.0	8:03 0.1	13:50 2.7	20:20 0.1	Tu	10	2:58 3.0	9:48 0.1	15:35 2.4	21:56 0.2	F	10	4:41 2.8	11:30 0.1	17:21 2.5	23:42 0.1										
N	S	11	2:22 3.0	9:07 0.1	14:56 2.6	21:18 0.1	N	W	11	4:00 2.9	10:52 0.1	16:42 2.4	22:57 0.1	S	11	5:40 2.8	12:23 0.1	18:15 2.6											
	M	12	3:22 3.0	10:10 0.1	15:56 2.5	22:17 0.1		Th	12	5:00 2.9	11:52 0.1	17:42 2.4	23:57 0.1	S	12	6:35 0.0	13:10 2.8	19:00 0.0	27										
	Tu	13	4:20 3.0	11:12 0.0	16:58 2.5	23:15 0.1		F	13	5:57 2.9	12:45 0.0	18:37 2.5		M	13	1:26 -0.1	7:18 2.9	13:58 0.0	19:40 2.8										
	W	14	5:17 3.0	12:08 -0.1	17:58 2.5			S	14	6:52 0.0	13:40 8.0	19:27 -0.1	25:6	●	Tu	14	2:09 -0.1	7:58 2.9	14:30 -0.1	20:16 2.9									
	A	Th	15	0:10 0.0	6:13 3.1	13:02 -0.1	18:53 2.6	●	S	15	1:42 -0.1	7:38 3.0	14:20 -0.1	20:10 2.7	E	W	15	2:48 -0.1	8:37 2.9	15:06 -0.1	20:51 8.0								
F		16	1:05 0.0	7:05 8.1	13:50 -0.2	19:44 2.7	M	16	2:30 -0.1	8:23 3.0	14:59 -0.2	20:48 2.8	Th	16	3:24 -0.1	9:15 2.9	15:39 0.0	21:25 3.0											
S		17	1:57 -0.1	7:55 8.1	14:37 -0.2	20:30 2.7	Tu	17	3:12 -0.1	9:04 3.0	15:37 -0.2	21:26 2.9	F	17	4:00 -0.1	9:50 2.9	16:10 0.1	22:00 3.0											
S		18	2:46 -0.1	8:40 8.1	15:22 -0.2	21:14 2.8	W	18	3:53 -0.1	9:42 3.0	16:18 -0.1	22:04 2.9	S	18	4:38 0.0	10:25 2.8	16:41 0.2	22:36 3.0											
M		19	3:38 -0.1	9:25 8.1	16:04 -0.2	21:56 2.8	Th	19	4:32 0.0	10:20 2.9	16:48 0.0	22:40 3.0	S	19	5:15 0.0	11:01 2.7	17:12 0.3	23:15 8.0											
D	Tu	20	4:18 0.0	10:08 8.0	16:45 -0.1	22:37 2.8	A	F	20	5:12 0.1	10:58 2.8	17:23 0.1	23:17 3.0	M	20	5:56 0.1	11:40 2.6	17:48 0.4	23:58 2.9										
	W	21	5:08 0.1	10:50 2.9	17:25 -0.1	23:17 2.8	S	21	5:51 0.1	11:37 2.7	17:57 0.2	23:56 2.9	Tu	21	6:42 0.1	12:26 2.5	18:29 0.5												
	Th	22	5:47 0.1	11:34 2.8	18:05 0.0	23:58 2.8	S	22	6:35 0.1	12:17 2.6	18:33 0.3		D	W	22	0:46 2.9	7:38 0.2	13:16 2.4	19:20 0.5										
	F	23	6:32 0.2	12:17 2.7	18:46 0.2		○	M	23	0:37 2.9	7:20 0.2	13:00 2.5	19:13 0.4	S	Th	23	1:40 2.8	8:36 0.3	14:15 2.4	20:27 0.6									
	S	24	0:40 2.9	7:18 0.3	13:00 2.6	19:26 0.3	Tu	24	1:23 2.8	8:13 0.3	13:50 2.4	20:00 0.5	F	24	2:41 2.8	9:40 0.3	15:20 2.4	21:41 0.5											
S	S	25	1:24 2.8	8:08 0.3	13:45 2.5	20:07 0.4	W	25	2:15 2.8	9:10 0.3	14:45 2.3	20:58 0.5	S	25	3:47 2.8	10:40 0.2	16:25 2.5	22:58 0.8											
	M	26	2:10 2.8	9:00 0.3	14:35 2.4	20:53 0.5	Th	26	3:12 2.8	10:12 0.2	15:50 2.3	22:05 0.5	S	26	4:50 2.9	11:39 0.1	17:27 2.7	23:56 0.1											
	Tu	27	2:58 2.8	9:58 0.3	15:28 2.3	21:45 0.5	S	F	27	4:14 2.9	11:10 0.1	16:54 2.4	23:10 0.4	M	27	5:51 3.0	12:31 -0.1	18:21 2.9											
	W	28	3:50 2.8	10:48 0.2	16:25 2.3	22:40 0.5	S	28	5:13 3.0	12:08 0.0	17:52 2.6		Tu	28	0:51 -0.1	6:48 8.1	13:20 -0.2	19:14 8.1											
	Th	29	4:43 2.9	11:40 0.1	17:22 2.4	23:35 0.4	S	29	0:12 0.2	6:12 3.1	12:59 -0.1	18:47 2.7	○	W	29	1:44 -0.3	7:40 3.8	14:07 -0.3	20:01 8.3										
S	F	30	5:38 3.0	12:33 0.0	18:18 2.5		M	30	1:10 0.0	7:08 3.2	13:48 -0.2	19:39 2.9	Th	30	2:34 -0.4	8:30 8.8	14:54 -0.4	20:48 3.4											
	S	31	0:30 0.8	6:38 8.1	13:23 -0.2	19:12 2.6	○	Tu	31	2:02 -0.2	8:00 3.3	14:37 -0.4	20:27 8.1																

OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N ☾	F	1	3:25 -0.5	9:20 3.2	15:40 -0.4	21:37 3.4	N ☾	M	1	4:45 -0.4	10:39 2.9	16:55 -0.1	22:56 3.3	N ☾	W	1	5:16 -0.3	11:11 2.8	17:31 0.0	23:27 3.0
	S	2	4:14 -0.5	10:09 3.1	16:28 -0.3	22:26 3.4		Tu	2	5:37 -0.3	11:31 2.8	17:51 0.0	23:50 3.1		Th	2	6:10 -0.1	12:03 2.7	18:30 0.1	
	S	3	5:05 -0.4	10:58 3.0	17:16 -0.2	23:18 3.3		W	3	6:33 -0.1	12:26 2.7	18:50 0.1			F	3	0:20 2.9	7:01 0.0	12:56 2.7	19:29 0.2
	M	4	5:59 -0.3	11:50 2.8	18:10 0.0			Th	4	0:48 2.9	7:30 0.0	13:24 2.6	19:54 0.2		☾ S	4	1:15 2.7	7:55 0.1	13:49 2.7	20:26 0.2
	Tu	5	0:12 3.1	6:55 -0.1	12:46 2.7	19:10 0.1		F	5	1:47 2.7	8:30 0.1	14:22 2.6	20:58 0.2		S	5	2:11 2.6	8:49 0.2	14:41 2.7	21:25 0.3
	☾ W	6	1:11 2.9	7:56 0.1	13:46 2.5	20:14 0.2		S	6	2:48 2.6	9:30 0.2	15:20 2.6	22:00 0.2		E M	6	3:08 2.5	9:39 0.2	15:31 2.7	22:19 0.2
	Th	7	2:12 2.8	9:01 0.2	14:51 2.5	21:21 0.2		S	7	3:47 2.6	10:24 0.2	16:13 2.6	22:55 0.2		A Tu	7	4:02 2.5	10:29 0.2	16:19 2.7	23:08 0.2
	F	8	3:16 2.7	10:05 0.2	15:55 2.5	22:24 0.2		M	8	4:45 2.6	11:13 0.1	17:03 2.7	23:45 0.1		W	8	4:54 2.4	11:11 0.3	17:01 2.8	23:51 0.1
	S	9	4:19 2.7	11:01 0.2	16:51 2.5	23:21 0.1		A E Tu	9	5:36 2.6	11:58 0.1	17:46 2.8			Th	9	5:40 2.4	11:55 0.3	17:42 2.9	
	E ☾	S	10	5:16 2.7	11:51 0.1	17:41 2.6			W	10	0:29 0.0	6:21 2.6	12:39 0.1		18:25 2.8	F	10	0:33 0.0	6:23 2.5	12:35 0.3	18:24 2.9
M		11	0:18 0.0	6:08 2.7	12:38 0.1	18:25 2.7	Th	11	1:10 0.0	7:01 2.6	13:15 0.1	19:01 2.9	S	11	1:14 -0.1	7:03 2.6	13:12 0.3	19:05 3.0		
Tu		12	1:00 0.0	6:53 2.7	13:19 0.0	19:04 2.8	☾ F	12	1:46 -0.1	7:39 2.6	13:50 0.2	19:38 3.0	☾ S	12	1:55 -0.1	7:43 2.5	13:51 0.3	19:48 3.1		
W		13	1:41 -0.1	7:32 2.8	13:55 0.0	19:40 2.9	S	13	2:24 -0.2	8:13 2.7	14:24 0.2	20:15 3.1	M	13	2:37 -0.2	8:25 2.6	14:29 0.3	20:30 3.2		
Th		14	2:19 -0.1	8:13 2.8	14:29 0.0	20:12 3.0	S	14	3:01 -0.2	8:49 2.7	14:55 0.3	20:54 3.1	S Tu	14	3:20 -0.2	9:07 2.6	15:10 0.3	21:14 3.1		
F		15	2:54 -0.1	8:45 2.8	15:00 0.1	20:49 3.0	M	15	3:41 -0.2	9:28 2.7	15:31 0.3	21:35 3.1	W	15	4:04 -0.2	9:51 2.7	15:56 0.3	22:00 3.1		
S		16	3:30 -0.1	9:19 2.8	15:30 0.2	21:24 3.1	S Tu	16	4:24 -0.1	10:09 2.7	16:10 0.4	22:18 3.1	Th	16	4:50 -0.2	10:38 2.7	16:46 0.3	22:50 3.0		
S		17	4:07 -0.1	9:54 2.7	16:00 0.3	22:02 3.1	W	17	5:09 -0.1	10:53 2.6	16:55 0.4	23:05 3.0	F	17	5:37 -0.1	11:23 2.8	17:41 0.3	23:41 2.9		
M		18	4:46 -0.1	10:31 2.7	16:35 0.3	22:41 3.0	Th	18	5:56 0.0	11:43 2.6	17:48 0.4	23:58 2.9	S	18	6:26 0.0	12:20 2.8	18:43 0.3			
E ☾		Tu	19	5:29 0.0	11:14 2.6	17:15 0.4	23:27 3.0	F	19	6:48 0.1	12:38 2.6	18:51 0.4		☾ S	19	0:37 2.8	7:15 0.1	13:15 2.8	19:49 0.3	
	W	20	6:16 0.1	12:01 2.6	18:02 0.5		☾ S	20	0:54 2.8	7:41 0.2	13:35 2.7	20:01 0.4	E M	20	1:36 2.7	8:11 0.1	14:11 2.9	20:52 0.2		
	Th	21	0:18 2.9	7:10 0.2	12:54 2.5	19:01 0.5	S	21	1:56 2.7	8:40 0.2	14:35 2.7	21:11 0.3	Tu	21	2:39 2.7	9:09 0.1	15:10 3.0	21:56 0.1		
	F	22	1:14 2.8	8:09 0.2	13:54 2.5	20:11 0.5	M	22	3:00 2.7	9:39 0.2	15:35 2.8	22:18 0.2	W	22	3:41 2.6	10:06 0.1	16:09 3.0	22:57 0.0		
	S	23	2:19 2.7	9:10 0.2	14:57 2.6	21:28 0.4	E Tu	23	4:06 2.7	10:36 0.1	16:34 3.0	23:16 0.0	P Th	23	4:45 2.6	11:01 0.1	17:06 3.1	23:55 -0.1		
	S	24	3:22 2.7	10:11 0.2	16:01 2.7	22:37 0.2	W	24	5:08 2.7	11:30 0.0	17:29 3.1		F	24	5:44 2.6	11:58 0.0	18:01 3.2			
	M	25	4:29 2.8	11:09 0.1	17:00 2.9	23:36 0.0	F Th	25	0:12 -0.2	6:06 2.8	12:21 -0.1	18:21 3.3	S	25	0:50 -0.2	6:40 2.7	12:51 -0.1	18:55 3.3		
	Tu	26	5:30 2.9	12:01 -0.1	17:55 3.0		F	26	1:06 -0.4	7:00 2.9	13:12 -0.2	19:13 3.4	☾ S	26	1:41 -0.3	7:34 2.7	13:44 -0.2	19:47 3.3		
	W	27	0:32 -0.2	6:26 3.0	12:51 -0.2	18:45 3.2	☾ S	27	1:56 -0.4	7:51 2.9	14:02 -0.2	20:04 3.4	N M	27	2:31 -0.4	8:25 2.8	14:36 -0.2	20:37 3.3		
	E ☾	Th	28	1:26 -0.4	7:20 3.1	13:39 -0.3	19:35 3.4	S	28	2:48 -0.5	8:41 2.9	14:53 -0.2	20:54 3.4	Tu	28	3:19 -0.4	9:15 2.8	15:29 -0.1	21:27 3.2	
F		29	2:15 -0.5	8:10 3.1	14:26 -0.3	20:30 3.5	N M	29	3:36 -0.5	9:31 2.9	15:43 -0.2	21:44 3.3	W	29	4:07 -0.3	10:01 2.8	16:20 -0.1	22:15 3.1		
S		30	3:05 -0.6	9:00 3.1	15:14 -0.3	21:14 3.5	Tu	30	4:26 -0.4	10:21 2.9	16:36 -0.1	22:35 3.2	Th	30	4:55 -0.3	10:49 2.8	17:10 0.0	23:02 3.0		
S		31	3:54 -0.5	9:50 3.0	16:02 -0.2	22:04 3.4							F	31	5:41 -0.2	11:35 2.8	18:01 0.1	23:51 3.2		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☾, 2d quar.; ☾, 3d quar.; ☾, 4th quar.; ☾, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O A E C S P D	F	1	4:20 2.7	10:45 0.2	16:58 2.2	22:44 0.0	N O A E C S P D	M	1	5:55 2.7	12:30 0.3	18:38 2.1	N O A E C S P D	N	M	1	4:40 2.5	11:14 0.4	17:28 2.1	23:00 0.2												
	S	2	5:12 2.8	11:42 0.2	17:59 2.2	23:35 0.1		Tu	2	0:12 0.0	6:47 2.7	18:20 0.2		19:30 2.2	Tu	2	5:37 2.5	12:10 0.3	18:23 2.1	23:00 0.2												
	S	3	6:12 2.7	12:40 0.2	18:52 2.2	N O A E C S P D		W	3	1:05 0.0	7:35 2.7	14:03 0.2		20:15 2.2	W	3	0:00 0.2	6:30 2.5	12:55 0.8	19:10 2.2												
	M	4	0:28 -0.1	7:02 2.8	13:33 0.1			19:43 2.2	Th	4	1:58 0.0	8:20 2.7		14:40 0.1	20:58 2.2	Th	4	0:52 0.1	7:18 2.5	13:35 0.2	19:52 2.3											
	Tu	5	1:23 -0.1	7:50 2.8	14:20 0.1			20:28 2.2	F	5	2:35 0.1	9:00 2.6		15:15 0.1	21:32 2.3	F	5	1:40 0.1	7:58 2.5	14:10 0.1	20:25 2.3											
	W	6	2:05 -0.1	8:35 2.7	15:00 0.0			21:12 2.2	S	6	3:12 0.1	9:35 2.5		15:50 0.0	22:05 2.3	S	6	2:20 0.1	8:35 2.6	14:42 0.0	20:58 2.4											
	Th	7	2:50 0.0	9:20 2.8	15:40 0.0			21:58 2.2	S	7	3:55 0.2	10:10 2.4		16:28 0.0	22:38 2.3	S	7	2:55 0.1	9:08 2.4	15:15 0.0	21:30 2.4											
	F	8	3:35 0.1	10:00 2.6	16:18 0.0			22:35 2.2	M	8	4:32 0.2	10:44 2.3		16:58 0.1	23:12 2.2	M	8	3:30 0.1	9:40 2.4	15:45 0.0	22:00 2.4											
	S	9	4:18 0.2	10:40 2.5	16:55 0.1			23:10 2.2	Tu	9	5:10 0.3	11:18 2.2		17:30 0.1	23:50 2.3	Tu	9	4:05 0.1	10:12 2.3	16:15 0.1	22:33 2.4											
	S	10	5:00 0.4	11:20 2.4	17:38 0.1			23:52 2.1	W	10	5:50 0.3	11:55 2.1		18:07 0.2	N O A E C S P D	W	10	4:40 0.1	10:45 2.3	16:48 0.1	23:08 2.4											
M	11	5:42 0.4	11:55 2.2	18:12 0.2	N O A E C S P D		Th	11	0:30 2.3	6:34 0.4	12:35 2.1	18:45 0.2	Th	11		5:20 0.2	11:20 2.2	17:25 0.2	23:48 2.4													
Tu	12	0:35 2.1	6:28 0.5	12:35 2.1			18:54 0.2	F	12	1:12 2.3	7:18 0.4	18:20 2.0	F	12		6:00 0.2	11:55 2.1	18:02 0.2	23:00 2.4													
W	13	1:20 2.2	7:15 0.5	13:20 2.0		19:35 0.3	S	13	2:05 2.3	8:20 0.4	14:15 1.9	20:20 0.3	S	13		0:34 2.4	6:50 0.2	12:40 2.0	18:50 0.8													
Th	14	2:08 2.2	8:08 0.5	14:10 1.9		20:20 0.3	S	14	3:08 2.4	9:20 0.4	15:18 1.9	21:20 0.3	S	14		1:28 2.4	7:45 0.3	13:35 1.9	19:45 0.3													
F	15	2:55 2.2	9:08 0.5	15:04 1.9		21:10 0.3	M	15	4:08 2.4	10:20 0.3	16:25 1.9	22:20 0.2	M	15		2:28 2.4	8:48 0.3	14:42 1.9	20:50 0.3													
S	16	3:48 2.3	10:00 0.4	16:04 1.9		22:00 0.2	Tu	16	5:02 2.6	11:22 0.2	17:30 2.0	23:25 0.0	Tu	16		3:33 2.4	9:55 0.3	15:57 2.0	22:00 0.2													
S	17	4:40 2.5	10:58 0.3	17:02 2.0		22:58 0.2	W	17	6:00 2.8	12:20 0.0	18:30 2.2	N O A E C S P D	W	17		4:38 2.5	11:00 0.2	17:08 2.1	23:05 0.1													
M	18	5:30 2.7	11:50 0.1	17:58 2.1		23:45 0.1	Th	18	0:22 -0.1	6:55 3.0	13:12 -0.1		19:25 2.4	Th		18	5:40 2.7	11:55 0.0	18:10 2.3	23:00 2.4												
Tu	19	6:25 2.9	12:45 0.0	18:50 2.2		N O A E C S P D	F	19	1:20 -0.3	7:45 3.0	14:05 -0.3		20:15 2.6	F		19	0:10 -0.2	6:35 2.8	12:50 -0.2	19:00 2.6												
W	20	0:40 -0.1	7:15 3.0	13:35 -0.2			19:42 2.3	S	20	2:12 -0.4	8:38 3.0		14:50 -0.4	21:03 2.8	S	20	1:05 -0.3	7:28 2.9	13:38 -0.3	19:50 2.8												
Th	21	1:32 -0.2	8:05 3.1	14:25 -0.3	20:33 2.4		S	21	3:05 -0.5	9:22 3.0	15:38 -0.4		21:50 2.9	S	21	2:00 -0.5	8:20 3.0	14:25 -0.5	20:38 3.0													
F	22	2:25 -0.3	8:55 3.1	15:12 -0.4	21:23 2.5		M	22	4:00 -0.5	10:12 3.0	16:25 -0.4		22:40 2.9	M	22	2:50 -0.6	9:05 3.0	15:10 -0.5	21:27 3.1													
S	23	3:18 -0.4	9:45 3.1	16:00 -0.4	22:10 2.6		Tu	23	4:52 -0.4	11:05 2.8	17:10 -0.3		23:32 2.9	Tu	23	3:40 -0.6	9:55 2.9	15:55 -0.4	22:15 3.1													
S	24	4:12 -0.3	10:35 3.0	16:50 -0.4	23:00 2.7		W	24	5:45 -0.8	12:00 2.6	18:00 -0.3		N O A E C S P D	W	24	4:30 -0.5	10:45 2.7	16:42 -0.3	23:08 3.0													
M	25	5:08 -0.3	11:22 2.8	17:40 -0.3	23:55 2.7		Th	25	0:27 2.8	6:42 -0.1	12:55 2.4			18:55 -0.1	Th	25	5:25 -0.3	11:35 2.5	17:32 -0.2	23:00 2.4												
Tu	26	6:05 -0.2	12:20 2.6	18:30 -0.2	N O A E C S P D		F	26	1:25 2.7	7:45 0.1	14:00 2.2			19:50 0.0	F	26	0:02 2.9	6:20 -0.1	12:34 2.3	18:25 -0.1												
W	27	0:55 2.7	7:05 -0.1	13:18 2.4			19:23 -0.1	S	27	2:28 2.6	8:54 0.3	15:10 2.0		20:52 0.1	S	27	1:00 2.7	7:20 0.1	13:35 2.1	19:25 0.0												
Th	28	1:58 2.6	8:10 0.1	14:24 2.2			20:20 0.0	S	28	3:32 2.6	10:05 0.4	16:20 2.0		21:55 0.2	S	28	2:00 2.5	8:25 0.3	14:45 2.0	20:28 0.2												
F	29	2:55 2.6	9:18 0.2	15:33 2.1		21:18 0.0	N O A E C S P D	N O A E C S P D	M	29	3:10 2.4	9:35 0.4		15:55 2.0	21:38 0.3	M	29	3:10 2.4	9:35 0.4	15:55 2.0	21:38 0.3											
S	30	3:57 2.7	10:28 0.3	16:40 2.0		22:18 0.1			Tu	30	4:15 2.3	10:40 0.4		17:00 2.0	22:45 0.3	Tu	30	4:15 2.3	10:40 0.4	17:00 2.0	22:45 0.3											
S	31	5:00 2.7	11:35 0.8	17:43 2.1		23:15 0.1			W	31	5:15 2.3	11:35 0.3		17:55 2.1	23:45 0.3	W	31	5:15 2.3	11:35 0.3	17:55 2.1	23:45 0.3											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.											
	W.	Mo.										W.	Mo.										W.	Mo.												
A	Th	1	6:08	12:20	18:40							S	1	0:05	6:22	12:15	18:38							Tu	1	0:45	6:56	12:40	19:10							
			2.3	0.2	2.2									0.3	2.2	0.2	2.3							W	2	0.2	2.1	0.1	2.6							
	F	2	0:35	6:52	13:00	19:12					E	S	2	0:45	7:00	12:50	19:10									1:25	7:35	13:20	19:45							
			0.2	2.3	0.2	2.3								0.2	2.2	0.1	2.5									0.1	2.2	0.1	2.8							
	S	3	1:18	7:30	13:34	19:50						M	3	1:20	7:35	13:22	19:40					C	Th	3	2:05	8:10	13:55	20:25								
E			0.2	2.3	0.1	2.4							0.1	2.2	0.1	2.6										-0.1	2.2	0.0	2.8							
	S	4	1:50	8:05	14:05	20:22					Tu	4	1:55	8:08	13:55	20:18											2:45	8:50	14:35	21:10						
			0.1	2.4	0.1	2.4							0.0	2.3	0.1	2.7										-0.1	2.2	0.0	2.9							
	M	5	2:28	8:40	14:35	20:52					O	W	5	2:32	8:40	14:23	20:53					E	S	5	3:28	9:30	15:17	21:55								
			0.1	2.4	0.1	2.5							0.0	2.3	0.0	2.7										-0.2	2.2	0.0	2.9							
C	Tu	6	3:00	9:10	15:05	21:25						Th	6	3:10	9:15	15:00	21:30										4:15	10:10	16:05	22:40						
			0.0	2.3	0.0	2.5							-0.1	2.2	0.1	2.7										-0.2	2.2	0.1	2.8							
	W	7	3:35	9:42	15:35	22:00						F	7	3:48	9:45	15:38	22:10										5:00	11:00	17:00	23:30						
			0.0	2.3	0.1	2.6							-0.1	2.2	0.1	2.7											-0.1	2.2	0.1	2.7						
	Th	8	4:12	10:15	16:10	22:35						S	8	4:30	10:25	16:18	22:55											5:50	11:45	17:55						
S			0.0	2.2	0.1	2.6							-0.1	2.2	0.2	2.7											-0.1	2.2	0.2							
	F	9	4:52	10:50	16:45	23:12					S	S	9	5:18	11:10	17:08	23:45											0:25	6:45	12:48	19:00					
			0.0	2.2	0.2	2.5							0.0	2.1	0.2	2.6											2.5	0.0	2.2	0.2						
	S	10	5:35	11:28	17:28							M	10	6:08	12:05	18:05												1:25	7:40	14:00	20:10					
			0.1	2.1	0.3								0.0	2.0	0.3												2.4	0.0	2.3	0.2						
E	S	11	0:05	6:25	12:15	18:30						Tu	11	0:40	7:05	13:08	19:10											2:35	8:40	15:05	21:20					
			2.5	0.1	2.0	0.3							2.5	0.1	2.0	0.3											2.3	0.1	2.4	0.1						
	M	12	1:00	7:20	13:15	19:20						W	12	1:42	8:05	14:18	20:20											3:35	9:40	16:05	22:25					
			2.4	0.2	1.9	0.4								2.4	0.2	2.1	0.3											2.3	0.0	2.6	0.1					
	Tu	13	2:02	8:25	14:25	20:30						Th	13	2:48	9:05	15:25	21:35												4:40	10:35	17:05	23:25				
C			2.4	0.3	2.0	0.4							2.3	0.2	2.2	0.2												2.2	0.0	2.8	0.0					
	W	14	3:10	9:30	15:40	21:40						F	14	3:55	10:10	16:28	22:40											5:40	11:30	18:00						
			2.4	0.2	2.1	0.2								2.3	0.1	2.4	0.0										2.3	-0.1	2.9							
	Th	15	4:15	10:30	16:45	22:55						S	15	5:00	11:02	17:25	23:40											0:25	6:35	12:20	18:50					
			2.4	0.1	2.2	0.1								2.4	0.0	2.6	-0.1											0.0	2.3	-0.2	3.0					
S	F	16	5:20	11:30	17:45	23:55						S	16	5:55	11:55	18:18												1:15	7:25	13:10	19:40					
			2.5	0.0	2.5	-0.1								2.5	-0.1	2.9												-0.1	2.3	-0.2	3.1					
	S	17	6:15	12:25	18:38							M	17	0:35	6:50	12:44	19:10											2:10	8:15	14:00	20:30					
			2.7	-0.1	2.7									-0.3	2.5	-0.2	3.1											-0.2	2.3	-0.2	3.1					
	S	18	0:50	7:10	13:10	19:28						Tu	18	1:28	7:42	13:30	20:00												2:55	9:05	14:45	21:15				
E			-0.3	2.8	-0.3	3.0								-0.3	2.5	-0.3	3.2											-0.1	2.3	-0.2	3.0					
	M	19	1:45	7:58	13:55	20:18						W	19	2:18	8:30	14:18	20:45												3:40	9:50	15:35	22:05				
			-0.5	2.8	-0.4	3.1								-0.4	2.5	-0.3	3.2											-0.1	2.3	-0.1	2.9					
	Tu	20	2:34	8:45	14:42	21:05						Th	20	3:08	9:18	15:05	21:35												4:25	10:40	16:25	22:50				
			-0.5	2.8	-0.4	3.2								-0.3	2.5	-0.3	3.1												-0.1	2.3	0.1	2.7				
C	W	21	3:22	9:35	15:28	21:55						F	21	3:55	10:08	15:52	22:28												5:10	11:25	17:15	23:40				
			-0.5	2.7	-0.4	3.2								-0.3	2.4	-0.2	3.0												0.0	2.2	0.2	2.5				
	Th	22	4:10	10:25	16:15	22:45						S	22	4:45	10:58	16:42	23:15												5:55	12:10	18:05					
			-0.4	2.5	-0.3	3.1								-0.1	2.3	0.0	2.8												0.1	2.2	0.4					
	F	23	5:02	11:18	17:05	23:37						S	23	5:32	11:50	17:35													0:25	6:40	13:05	19:00				
S			-0.2	2.4	-0.1	2.9								0.0	2.2	0.2													2.3	0.2	2.1	0.4				
	S	24	5:55	12:10	18:00							M	24	0:05	6:25	12:42	18:32												1:15	7:25	14:00	19:55				
			0.0	2.2	0.1									2.6	0.1	2.1	0.3											2.1	0.2	2.1	0.5					
	S	25	0:33	6:52	13:10	19:00						Tu	25	1:00	7:15	13:40	19:35												2:00	8:15	14:50	20:50				
			2.6	0.1	2.1	0.2								2.3	0.2	2.1	0.5												2.0	0.3	2.2	0.6				
E	M	26	1:32	7:52	14:12	20:04						W	26	1:55	8:10	14:42	20:40												3:00	9:00	15:35	21:45				
			2.4	0.3	2.0	0.4								2.1	0.3	2.1	0.5												1.9	0.3	2.2	0.6				
	Tu	27	2:35	8:55	15:20	21:15						Th	27	2:55	9:05	15:38	21:40												3:50	9:50	16:20	22:35				
			2.3	0.4	2.0	0.5								2.1	0.3	2.1	0.5												1.9	0.3	2.3	0.5				
	W	28	3:40	9:55	16:20	22:20						A	F	28	3:50	9:56	16:28	22:36											4:40	10:30	17:05	23:20				
C			2.2	0.4	2.1	0.6								2.0	0.3	2.2	0.5												1.9	0.3	2.4	0.4				
	Th	29	4:40	10:50	17:15	23:12						E	S	29	4:46	10:42	17:15	23:25											5:30	11:15	17:50					
			2.1	0.3	2.2	0.4								2.0	0.3	2.3	0.4											1.9	0.2	2.5						
	F	30	5:30	11:35	18:00								S	30	5:32	11:25	17:55												0:10	6:15	12:00	18:30				
			2.1	0.3	2.3										2.0	0.2																				

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S	Th	1	0:50 0.1	7:00 2.1	12:45 0.1	19:20 2.8	P	S	1	2:00 -0.2	8:10 2.3	14:00 -0.2	20:30 3.0	E	W	1	3:10 -0.4	9:25 2.9	15:35 -0.5	21:50 3.0												
	F	2	1:40 -0.1	7:45 2.2	13:30 0.0	20:05 2.9		M	2	2:50 -0.3	9:00 2.5	14:55 -0.3	21:20 3.0		Th	2	3:58 -0.5	10:15 3.0	16:27 -0.5	22:40 2.8												
	S	3	2:25 -0.2	8:30 2.2	14:20 -0.1	20:55 8.0		Tu	3	3:30 -0.3	9:45 2.6	15:48 -0.3	22:10 2.9		F	3	4:45 -0.4	11:05 3.0	17:20 -0.4	23:30 2.6												
	S	4	3:10 -0.2	9:15 2.3	15:05 -0.1	21:40 8.0		W	4	4:20 -0.4	10:35 2.7	16:40 -0.3	23:00 2.8		S	4	5:30 -0.3	11:55 2.9	18:15 -0.2													
	M	5	3:55 -0.2	10:00 2.3	15:55 -0.2	22:30 2.9		Th	5	5:10 -0.3	11:25 2.6	17:35 -0.2	23:50 2.7		S	5	6:25 2.4	12:55 -0.1	19:10 2.8	0.0												
	Tu	6	4:45 -0.2	10:50 2.4	16:50 -0.1	23:20 2.8		F	6	6:00 -0.2	12:20 2.6	18:33 -0.1			M	6	1:25 2.2	7:20 0.0	13:55 2.7	20:15 0.2												
	W	7	5:30 -0.2	11:45 2.4	17:50 0.0			S	7	6:45 2.5	6:50 -0.1	13:20 2.6	19:33 0.0		Tu	7	2:35 2.1	8:20 0.1	15:00 2.6	21:30 0.3												
E	Th	8	6:10 2.6	6:20 -0.1	12:45 2.5	18:50 0.0	C	S	8	1:45 2.3	7:45 0.0	14:20 2.7	20:40 0.2	N	W	8	3:50 2.0	9:30 0.2	16:10 2.6	22:40 0.4												
	F	9	1:08 2.5	7:20 0.0	13:45 2.5	19:55 0.1		M	9	2:55 2.1	8:45 0.0	15:30 2.7	21:50 0.3		Th	9	4:55 2.1	10:35 0.2	17:10 2.5	23:45 0.3												
	S	10	2:05 2.3	8:15 0.0	14:45 2.6	21:00 0.1		Tu	10	4:05 2.0	9:45 0.1	16:25 2.7	23:00 0.3		F	10	5:55 2.2	11:35 0.1	18:10 2.5													
	S	11	3:15 2.2	9:10 0.0	15:45 2.7	22:10 0.2		W	11	5:10 2.0	10:45 0.1	17:25 2.7			S	11	6:32 0.2	6:50 2.3	12:40 0.1	18:50 2.5												
	M	12	4:20 2.1	10:10 0.0	16:45 2.8	23:15 0.2		Th	12	6:02 0.3	6:08 2.1	11:50 0.0	18:20 2.7		S	12	1:10 0.2	7:25 2.3	13:30 0.1	19:40 2.5												
	Tu	13	5:25 2.1	11:05 -0.1	17:45 2.9			F	13	6:55 0.2	7:05 2.2	12:43 0.0	19:15 2.7		M	13	1:55 0.1	8:10 2.4	14:20 0.0	20:30 2.5												
	W	14	6:15 0.1	6:25 2.1	12:00 -0.1	18:40 2.9		S	14	1:40 0.1	7:45 2.3	13:35 0.0	20:00 2.7		Tu	14	2:28 0.0	8:45 2.5	14:45 0.0	21:00 2.5												
N	Th	15	1:10 0.1	7:15 2.2	12:55 -0.1	19:30 2.9	●	S	15	2:22 0.1	8:35 2.3	14:20 0.0	20:45 2.7	E	W	15	3:00 0.0	9:20 2.5	15:00 0.0	21:35 2.4												
	F	16	1:55 0.0	8:10 2.2	13:45 -0.1	20:15 2.9		M	16	3:00 0.0	9:15 2.4	15:05 0.0	21:28 2.6		Th	16	3:30 0.0	9:50 2.5	15:55 0.1	22:05 2.3												
	S	17	2:40 0.0	8:55 2.3	14:35 -0.1	21:00 2.9		Tu	17	3:30 0.0	9:50 2.4	15:40 0.1	22:00 2.5		F	17	4:02 0.1	10:20 2.4	16:30 0.1	22:30 2.2												
	S	18	3:20 0.0	9:40 2.3	15:20 0.0	21:45 2.7		W	18	4:10 0.0	10:25 2.4	16:25 0.1	22:35 2.4		S	18	4:35 0.1	10:55 2.4	17:05 0.2	23:10 2.1												
	M	19	4:00 0.0	10:20 2.3	16:10 0.1	22:25 2.6		Th	19	4:42 0.0	11:00 2.4	17:00 0.2	23:10 2.3		S	19	5:05 0.2	11:30 2.4	17:45 0.2	23:40 2.0												
	Tu	20	4:40 0.0	11:00 2.3	16:50 0.2	23:08 2.4		F	20	5:15 0.1	11:40 2.3	17:40 0.3	23:45 2.1		M	20	5:45 0.3	12:15 2.3	18:30 0.3													
	W	21	5:20 0.0	11:40 2.2	17:30 0.3	23:45 2.3		S	21	5:55 0.2	12:20 2.3	18:20 0.4			Tu	21	6:20 2.0	6:25 0.4	13:08 2.3	19:20 0.3												
A	Th	22	6:00 0.1	12:20 2.2	18:17 0.4		D	S	22	6:20 2.0	6:30 0.3	13:05 2.2	19:05 0.4	D	W	22	1:10 1.9	7:20 0.4	14:00 2.3	20:20 0.3												
	F	23	6:30 2.1	6:40 0.2	13:08 2.2	19:05 0.5		M	23	1:00 1.9	7:10 0.3	13:50 2.2	20:00 0.4		Th	23	2:15 1.8	8:22 0.4	15:00 2.3	21:25 0.3												
	S	24	1:10 2.0	7:20 0.3	13:43 2.2	19:53 0.5		Tu	24	1:50 1.9	8:00 0.4	14:40 2.3	20:55 0.5		F	24	3:30 1.9	9:30 0.3	16:10 2.4	22:30 0.2												
	S	25	1:55 1.9	8:05 0.3	14:40 2.2	20:45 0.5		W	25	2:50 1.8	8:55 0.4	15:40 2.3	21:55 0.4		S	25	4:30 2.1	10:40 0.2	17:10 2.5	23:30 0.1												
	M	26	2:45 1.8	8:50 0.3	15:35 2.3	21:40 0.5		Th	26	3:55 1.8	9:55 0.3	16:40 2.5	22:45 0.3		S	26	5:40 2.3	11:45 0.0	18:10 2.6													
	Tu	27	3:43 1.8	9:40 0.3	16:20 2.4	22:48 0.4		F	27	5:05 2.0	10:48 0.2	17:35 2.6	23:53 0.2		M	27	6:25 -0.1	6:35 2.5	12:40 -0.2	19:00 2.8												
	W	28	4:40 1.9	10:33 0.3	17:12 2.5	23:30 0.3		S	28	6:05 2.1	11:48 0.0	18:30 2.8			Tu	28	1:10 -0.3	7:25 2.8	13:35 -0.4	19:55 2.9												
S	Th	29	5:38 1.9	11:25 0.2	18:03 2.7		S	S	29	6:50 -0.1	7:00 2.3	12:55 -0.2	19:20 2.9	P	W	29	2:00 -0.4	8:15 3.0	14:25 -0.6	20:40 2.9												
	F	30	6:25 0.1	6:30 2.1	12:20 0.1	18:55 2.8		M	30	1:40 -0.2	7:50 2.5	13:50 -0.3	20:15 3.0		Th	30	2:45 -0.4	9:00 3.1	15:10 -0.6	21:25 2.9												
	S	31	1:12 0.0	7:20 2.2	13:10 -0.1	19:40 2.9		Tu	31	2:30 -0.4	8:40 2.7	14:42 -0.5	21:05 3.0																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m. ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
N	F	1	3:30 -0.4	9:45 3.2	16:00 -0.6	22:10 2.7	M	M	1	4:40 -0.2	11:10 3.0	17:30 -0.2	23:45 2.3	W	W	1	5:15 0.0	11:45 2.7	18:00 0.0	23:57 0.1									
	S	2	4:20 -0.4	10:35 3.1	16:40 -0.4	22:55 2.6		Tu	2	5:35 -0.1	12:05 2.8	18:25 0.0	Th		2	6:20 2.2	12:40 0.2	18:57 2.5	23:57 0.1										
	S	3	5:10 -0.4	11:25 3.0	17:50 -0.2			W	3	6:45 2.2	13:05 0.1	19:25 0.2	F		3	7:15 2.2	13:35 0.3	19:50 0.2	23:57 0.1										
	M	4	6:05 2.4	12:20 -0.1	18:50 2.8	19:50 0.0		Th	4	7:45 2.1	14:10 0.3	20:30 0.3	S		4	8:18 2.2	14:35 0.4	20:45 2.2	23:57 0.1										
	Tu	5	1:05 2.2	6:55 0.1	13:30 2.6	19:50 0.2		F	5	8:50 2.1	15:15 0.4	21:30 0.3	S		5	9:22 2.2	15:35 0.5	21:35 2.1	23:57 0.1										
	W	6	2:10 2.1	8:00 0.2	14:35 2.5	21:00 0.3		S	6	9:55 2.2	16:20 0.4	22:25 0.3	M		6	10:20 2.3	16:35 0.5	22:25 2.0	23:57 0.1										
	Th	7	3:25 2.0	9:10 0.3	15:45 2.4	22:10 0.3		S	7	10:58 2.3	17:15 0.3	23:15 0.2	Tu		7	11:12 2.4	17:25 0.5	23:07 2.0	23:57 0.1										
	F	8	4:30 2.1	10:20 0.3	16:50 2.3	23:10 0.3		M	8	11:52 2.3	18:05 0.3	23:56 0.2	W		8	11:56 2.4	18:06 0.4	23:46 2.0	23:57 0.1										
	S	9	5:25 2.2	11:25 0.3	17:45 2.3	23:58 0.2		Tu	9	12:35 2.4	18:50 0.2		Th		9	12:35 2.5	18:45 0.3		23:57 0.1										
	S	10	6:15 2.3	12:20 0.2	18:30 2.3			W	10	1:05 0.1	19:35 2.5	19:25 2.2	F		10	6:55 0.2	13:15 2.6	19:20 2.2	23:57 0.1										
	M	11	6:40 0.2	7:00 2.4	13:05 0.1	19:20 2.4		Th	11	1:10 0.1	7:35 2.6	13:46 0.1	20:00 2.2		S	11	7:35 0.1	13:52 2.7	20:00 2.1	23:57 0.1									
	Tu	12	1:20 0.1	7:35 2.5	13:45 0.1	20:00 2.4		F	12	1:40 0.1	8:05 2.6	14:20 0.1	20:30 2.2		S	12	8:10 0.1	14:30 2.8	20:35 2.1	23:57 0.1									
E	W	13	1:50 0.1	8:10 2.5	14:20 0.1	20:30 2.3	S	S	13	2:12 0.1	8:40 2.7	14:55 0.0	21:02 2.2	M	M	13	8:50 0.1	15:10 2.8	21:10 2.1	23:57 0.1									
	Th	14	2:22 0.1	8:40 2.5	14:52 0.1	21:05 2.3		S	14	2:45 0.1	9:15 2.7	15:35 0.0	21:32 2.1		Tu	14	9:35 0.1	15:55 2.8	22:00 2.1	23:57 0.1									
	F	15	2:50 0.1	9:12 2.6	15:25 0.0	21:35 2.3		M	15	3:20 0.1	9:55 2.7	16:15 0.0	22:15 2.1		W	15	10:20 0.1	16:40 2.8	22:45 2.2	23:57 0.1									
	S	16	3:22 0.1	9:45 2.6	16:00 0.0	22:05 2.2		Tu	16	4:00 0.2	10:35 2.6	16:55 0.0	22:50 2.1		Th	16	11:05 0.1	17:25 2.7	23:30 2.2	23:57 0.1									
	S	17	3:53 0.1	10:20 2.5	16:35 0.1	22:40 2.1		W	17	4:43 0.3	11:20 2.6	17:45 0.0	23:40 2.1		F	17	11:55 0.2	18:15 2.6		23:57 0.1									
	M	18	4:28 0.2	11:00 2.5	17:20 0.1	23:10 2.1		Th	18	5:35 0.3	12:12 2.5	18:35 0.1			S	18	6:30 2.3	12:50 0.2	19:10 2.4	23:57 0.1									
	Tu	19	5:05 0.2	11:45 2.4	18:05 0.2	23:55 2.0		F	19	6:35 2.0	13:10 0.3	19:30 2.4	21:02 0.1		S	19	7:35 2.3	13:50 0.2	20:05 2.3	23:57 0.1									
	W	20	5:55 0.4	12:35 2.4	18:55 0.2			S	20	7:45 2.1	14:10 0.3	20:30 2.3	21:30 0.1		M	20	8:40 2.4	14:55 0.2	21:00 2.3	23:57 0.1									
	Th	21	6:50 1.9	1:30 0.4	19:55 2.3	0.3		S	21	8:55 2.2	15:15 0.3	21:30 2.3	21:30 0.1		Tu	21	9:45 2.5	16:00 0.1	22:00 2.2	23:57 0.1									
	F	22	1:55 1.9	8:00 0.4	14:35 2.3	20:55 0.2		M	22	10:05 2.4	16:20 0.1	22:30 2.3	22:30 0.0		W	22	10:50 2.7	17:05 0.0	22:55 2.2	23:57 0.1									
	S	23	3:05 2.2	9:12 0.3	15:40 2.3	22:00 0.2		Tu	23	11:10 2.6	17:25 -0.1	23:20 2.4	23:20 -0.1		Th	23	11:50 2.9	18:02 0.0	23:48 2.2	23:57 0.1									
	S	24	4:15 2.2	10:25 0.2	16:45 2.4	23:00 0.1		W	24	12:05 2.8	18:20 -0.2	23:30 2.5			F	24	12:45 3.0	18:52 -0.1		23:57 0.1									
M	25	5:15 2.4	11:25 0.0	17:45 2.6	23:50 -0.1	Th	25	1:02 -0.3	6:40 3.1	13:00 -0.3	19:15 2.5	S	25	7:15 -0.2	13:40 3.1	19:50 -0.1	23:57 0.1												
Tu	26	6:10 2.7	12:22 -0.3	18:40 2.7		F	26	1:00 -0.3	7:30 3.2	13:50 -0.4	20:02 2.5	S	26	8:05 -0.3	14:30 3.1	20:40 -0.2	23:57 0.1												
E	W	27	6:40 -0.2	7:00 3.0	13:15 -0.5	19:30 2.7	C	S	27	1:50 -0.4	8:20 3.3	14:40 -0.4	20:52 2.5	N	M	27	8:55 -0.3	15:15 3.1	21:30 -0.2	23:57 0.1									
	Th	28	1:30 -0.4	7:50 3.2	14:05 -0.5	20:20 2.7		S	28	2:40 -0.4	9:10 3.3	15:30 -0.3	21:45 2.5		Tu	28	9:45 -0.2	16:05 3.0	22:20 -0.2	23:57 0.1									
	F	29	2:05 -0.4	8:40 3.3	14:55 -0.5	21:10 2.7		M	29	3:28 -0.3	10:00 3.1	16:20 -0.2	22:35 2.4		W	29	10:35 -0.1	16:50 2.9	23:10 -0.1	23:57 0.1									
	S	30	3:02 -0.4	9:30 3.3	15:45 -0.5	22:00 2.6		Tu	30	4:20 -0.1	10:55 3.0	17:10 -0.1	23:30 2.3		Th	30	11:20 0.1	17:35 2.6	23:55 0.3	23:57 0.1									
	S	31	3:50 -0.4	10:20 3.2	16:40 -0.3	22:55 2.5							F	31	12:05 0.2	18:20 2.4		23:57 0.1											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O A E C P D	F	1	5:38 2.8	12:56 0.1	17:50 2.0						M	1	1:10 0.2	6:56 2.7	14:20 0.1	19:15 1.8	N	M	1	5:34 2.6	12:53 0.2	17:58 1.9										
	S	2	0:36 0.1	6:32 2.8	13:49 0.0	18:42 1.9					N	Tu	2	2:07 0.3	7:44 2.7	15:08 0.1	20:06 1.9	Tu	2	0:55 0.3	6:27 2.5	13:47 0.2	18:54 1.9									
	S	3	1:30 0.2	7:22 2.8	14:45 0.0	19:35 1.9					W	3	3:05 0.3	8:29 2.7	15:56 0.0	20:54 1.9	W	3	1:52 0.4	7:15 2.5	14:38 0.2	19:45 1.9										
	M	4	2:23 0.2	8:10 2.9	15:35 0.0	20:28 1.9					Th	4	3:57 0.4	9:13 2.7	16:42 0.0	21:42 2.0	Th	4	2:48 0.4	8:08 2.5	15:27 0.2	20:32 2.0										
	Tu	5	3:17 0.3	8:55 2.9	16:22 -0.1	21:18 1.9					O	F	5	4:44 0.4	9:56 2.6	17:26 0.0	22:28 2.1	F	5	3:40 0.4	8:45 2.5	16:10 0.2	21:17 2.1									
	W	6	4:10 0.3	9:40 2.8	17:07 -0.1	22:04 2.0					S	6	5:32 0.4	10:40 2.6	18:06 0.0	23:13 2.2	O	S	6	4:24 0.3	9:30 2.5	16:52 0.2	22:00 2.3									
	Th	7	5:02 0.3	10:24 2.8	17:52 -0.1	22:54 2.0					S	7	6:17 0.4	11:22 2.6	18:45 0.1	23:56 2.3	A	S	7	5:10 0.3	10:13 2.5	17:32 0.2	22:48 2.4									
	F	8	5:51 0.4	11:06 2.7	18:34 -0.1	23:40 2.1					A	M	8	7:00 0.4	12:07 2.5	19:22 0.1		M	8	5:53 0.3	10:57 2.4	18:07 0.2	23:25 2.6									
	S	9	6:40 0.4	11:51 2.6	19:17 0.0						E	Tu	9	0:42 2.4	7:43 0.4	12:52 2.4	19:55 0.1	E	Tu	9	6:34 0.2	11:40 2.4	18:40 0.2									
	S	10	0:28 2.2	7:27 0.4	12:33 2.6	19:57 0.0					W	10	1:26 2.5	8:27 0.3	13:37 2.3	20:25 0.2	W	10	0:08 2.7	7:15 0.2	12:26 2.3	19:03 0.2										
M	11	1:16 2.2	8:12 0.4	13:20 2.5	20:35 0.1					Th	11	2:12 2.6	9:10 0.3	14:25 2.2	20:47 0.2	Th	11	0:52 2.7	7:58 0.2	13:11 2.3	19:35 0.2											
Tu	12	2:02 2.3	8:58 0.5	14:07 2.3	21:10 0.1					F	12	3:00 2.7	10:00 0.8	15:13 2.1	21:17 0.2	F	12	1:37 2.8	8:44 0.2	13:57 2.2	19:58 0.2											
W	13	2:48 2.4	9:45 0.4	14:55 2.2	21:42 0.2					C	S	13	3:48 2.8	10:52 0.3	16:08 2.0	22:01 0.2	S	13	2:25 2.8	9:32 0.2	14:45 2.1	20:40 0.2										
Th	14	3:37 2.5	10:34 0.4	15:47 2.1	22:10 0.2					S	14	4:30 2.8	11:49 0.3	16:58 2.0	22:42 0.2	C	S	14	3:15 2.8	10:24 0.2	15:36 2.1	21:27 0.2										
F	15	4:24 2.7	11:27 0.3	16:35 2.0	22:37 0.2					M	15	5:33 2.8	12:47 0.2	17:53 2.0	23:35 0.2	M	15	4:08 2.8	11:17 0.2	16:32 2.1	22:26 0.2											
S	16	5:13 2.8	12:42 0.3	17:28 2.0	23:15 0.2					S	Tu	16	6:28 2.9	13:45 0.1	18:50 2.1		S	Tu	16	5:05 2.8	12:14 0.2	17:28 2.1	23:35 0.2									
S	17	6:04 2.8	13:21 0.2	18:22 2.0						W	17	0:45 0.2	7:27 2.9	14:40 0.1	19:47 2.2	W	17	6:08 2.7	13:11 0.2	18:29 2.2												
M	18	0:01 0.2	6:55 2.9	14:15 0.1	19:12 2.0					Th	18	2:02 0.1	8:21 2.9	15:37 0.0	20:43 2.3	Th	18	0:55 0.2	7:02 2.7	14:08 0.1	19:27 2.3											
Tu	19	0:56 0.2	7:48 3.0	15:12 0.0	20:11 2.1					F	19	3:23 0.1	9:18 2.9	16:37 -0.1	21:38 2.5	F	19	2:10 0.1	7:58 2.7	15:01 0.0	20:23 2.5											
W	20	2:00 0.2	8:41 3.0	16:07 -0.1	21:10 2.2					P	S	20	4:34 0.0	10:17 2.9	17:13 -0.1	22:33 2.6	S	20	3:27 0.0	8:52 2.7	15:52 0.0	21:17 2.7										
Th	21	3:18 0.1	9:35 3.1	16:57 -0.1	21:58 2.3					P	S	21	5:34 -0.1	10:58 2.8	18:02 -0.2	23:26 2.8	P	S	21	4:25 -0.1	9:45 2.7	16:40 -0.1	22:12 2.8									
F	22	4:34 0.1	10:27 3.0	17:43 -0.2	22:52 2.4					E	M	22	6:32 -0.1	11:48 2.7	18:48 -0.2		E	M	22	5:21 -0.1	10:36 2.6	17:30 -0.1	23:02 2.9									
S	23	5:42 0.1	11:17 3.0	18:33 -0.2	23:47 2.5					Tu	23	0:18 2.8	7:27 -0.1	12:37 2.6	19:36 -0.2	Tu	23	6:13 -0.2	11:24 2.6	18:18 -0.1	23:55 3.0											
S	24	6:45 0.1	12:10 2.9	19:17 -0.2						W	24	1:11 2.9	8:20 -0.1	13:28 2.5	20:23 -0.1	W	24	7:05 -0.2	12:12 2.5	19:06 -0.1												
M	25	0:42 2.6	7:45 0.0	13:00 2.7	20:05 -0.2					Th	25	2:03 2.9	9:13 0.0	14:18 2.8	21:18 0.0	Th	25	0:44 3.0	7:56 -0.2	13:05 2.3	19:57 -0.1											
Tu	26	1:36 2.7	8:42 0.1	13:54 2.5	20:52 -0.2					D	F	26	2:58 2.8	10:08 0.0	15:12 2.1	22:05 0.0	F	26	1:34 2.9	8:48 -0.1	13:55 2.2	20:48 0.1										
W	27	2:32 2.7	9:38 0.1	14:45 2.4	21:40 -0.1					S	27	3:49 2.7	11:08 0.1	16:07 2.0	23:01 0.1	S	27	2:25 2.8	9:40 -0.1	14:48 2.1	21:42 0.2											
Th	28	3:25 2.8	10:35 0.1	15:37 2.2	22:30 0.0					S	28	4:42 2.7	11:59 0.1	17:02 1.9	23:56 0.2	D	S	28	3:17 2.7	10:32 0.0	15:44 2.0	22:38 0.3										
F	29	4:18 2.7	11:32 0.1	16:32 2.0	23:21 0.1											N	M	29	4:10 2.6	11:26 0.1	16:41 2.0	23:37 0.4										
S	30	5:12 2.7	12:29 0.1	17:25 1.9													Tu	30	5:02 2.5	12:20 0.2	17:38 1.9											
S	31	0:16 0.2	6:07 2.7	13:25 0.1	18:20 1.9												W	31	0:36 0.4	5:57 2.4	13:12 0.2	18:32 2.0										

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	1:32 0.4	6:44 2.3	14:03 0.3	19:22 2.1	E	S	1	1:55 0.4	6:56 2.1	14:04 0.3	19:34 2.4	O	Tu	1	3:02 0.2	7:57 2.0	14:06 0.3	20:24 2.8												
	F	2	2:24 0.4	7:32 2.3	14:50 0.3	20:07 2.2		S	2	2:44 0.3	7:43 2.1	14:45 0.3	20:15 2.6		W	2	3:50 0.1	8:45 2.0	14:40 0.3	21:10 3.0												
	S	3	3:13 0.4	8:17 2.3	15:32 0.3	20:48 2.3		M	3	3:32 0.2	8:30 2.1	15:18 0.3	20:57 2.7		Th	3	4:38 0.0	9:33 2.0	15:20 0.3	21:55 3.0												
	S	4	4:00 0.3	9:00 2.3	16:13 0.3	21:28 2.5		Tu	4	4:18 0.1	9:18 2.1	15:44 0.3	21:38 2.8		F	4	5:25 -0.1	10:21 2.1	16:12 0.3	22:43 3.1												
	M	5	4:43 0.2	9:46 2.3	16:48 0.3	22:12 2.6		W	5	5:02 0.0	10:02 2.2	16:12 0.3	22:23 2.9		S	5	6:12 -0.1	11:10 2.1	17:06 0.3	23:32 3.1												
E	Tu	6	5:27 0.1	10:32 2.3	17:20 0.3	22:53 2.8	O	Th	6	5:47 0.0	10:50 2.2	16:45 0.3	23:08 3.0	S	S	6	6:58 -0.2	12:00 2.2	18:03 0.3													
	W	7	6:08 0.1	11:14 2.3	17:45 0.3	23:36 2.9		F	7	6:32 -0.1	11:33 2.2	17:28 0.3	23:54 3.0		M	7	8:20 3.0	7:45 -0.1	12:52 2.3	19:17 0.3												
	Th	8	6:52 0.0	11:59 2.2	18:10 0.2			S	8	7:17 -0.1	12:21 2.2	18:15 0.3			Tu	8	1:18 2.9	8:32 -0.1	13:47 2.3	20:31 0.3												
	F	9	8:22 2.9	7:35 0.0	12:45 2.2	18:43 0.2		S	9	8:42 3.0	8:03 -0.1	13:10 2.2	19:12 0.3		W	9	2:04 2.7	9:17 0.0	14:43 2.4	21:38 0.3												
	S	10	1:10 2.9	8:23 0.0	13:33 2.2	19:28 0.2		M	10	1:32 2.9	8:50 0.0	14:02 2.2	20:13 0.3		Th	10	3:00 2.5	10:00 0.0	15:40 2.5	22:42 0.3												
S	S	11	1:57 2.9	9:10 0.1	14:22 2.1	20:18 0.3	C	Tu	11	2:25 2.8	9:38 0.0	14:58 2.2	21:28 0.3	F	F	11	3:55 2.4	10:50 0.0	16:38 2.6	23:46 0.2												
	M	12	2:47 2.8	10:00 0.1	15:15 2.1	21:17 0.3		W	12	3:20 2.6	10:26 0.1	15:57 2.3	22:42 0.3		S	12	4:51 2.2	11:34 0.1	17:34 2.7													
	Tu	13	3:43 2.7	10:50 0.1	16:13 2.2	22:26 0.3		Th	13	4:18 2.5	11:15 0.1	16:55 2.4	23:53 0.3		S	13	5:47 0.1	12:24 2.1	18:28 0.1	24:46 2.8												
	W	14	4:40 2.6	11:43 0.2	17:12 2.3	23:47 0.3		F	14	5:16 2.4	12:08 0.2	17:53 2.6			M	14	1:46 0.1	6:40 2.1	13:43 0.1	19:20 2.9												
	Th	15	5:40 2.5	12:36 0.2	18:10 2.4			S	15	1:02 0.2	6:13 2.3	12:55 0.1	18:50 2.7		Tu	15	2:40 0.0	7:33 2.0	14:08 0.1	20:10 3.0												
F	F	16	1:02 0.2	6:39 2.5	13:32 0.1	19:09 2.5	E	S	16	2:03 0.1	7:08 2.2	13:45 0.1	19:43 2.9	N	W	16	3:22 -0.1	8:26 2.0	15:07 0.1	20:58 3.0												
	S	17	2:14 0.1	7:35 2.5	14:34 0.1	20:04 2.7		M	17	2:57 -0.1	8:00 2.2	14:39 0.1	20:33 3.0		Th	17	4:20 -0.2	9:16 2.0	16:04 0.2	21:45 3.0												
	S	18	3:15 0.0	8:28 2.5	15:14 0.0	20:57 2.9		Tu	18	3:53 -0.2	8:51 2.2	15:32 0.1	21:22 3.1		F	18	5:10 -0.2	10:07 2.1	16:58 0.2	22:32 3.0												
	M	19	4:10 -0.1	9:18 2.4	16:03 0.0	21:48 3.0		W	19	4:43 -0.2	9:40 2.2	16:26 0.1	22:11 3.1		S	19	5:57 -0.2	10:58 2.1	17:54 0.2	23:17 2.9												
	Tu	20	5:02 -0.2	10:07 2.4	16:55 0.0	22:37 3.1		Th	20	5:35 -0.3	10:31 2.2	17:19 0.1	22:59 3.1		S	20	6:44 -0.2	11:50 2.1	18:47 0.3													
C	W	21	5:53 -0.3	10:58 2.4	17:46 0.0	23:35 3.1	N	F	21	6:20 -0.3	11:22 2.2	18:13 0.1	23:45 3.0	A	M	21	7:02 2.8	12:25 -0.1	19:40 2.1	24:40 0.3												
	Th	22	6:42 -0.3	11:47 2.3	18:38 0.0			S	22	7:07 -0.3	12:13 2.2	19:10 0.2			Tu	22	7:47 2.7	13:12 -0.1	20:30 2.2	25:40 0.4												
	F	23	8:14 3.1	7:32 -0.3	12:38 2.2	19:32 0.1		S	23	8:02 2.9	7:54 -0.2	13:07 2.1	20:02 0.3		W	23	1:34 2.5	8:57 0.0	14:22 2.2	21:20 0.5												
	S	24	1:03 3.0	8:20 -0.2	13:31 2.2	20:24 0.2		M	24	1:20 2.7	8:42 -0.1	14:00 2.1	20:56 0.4		Th	24	2:20 2.3	9:38 0.1	15:12 2.3	22:10 0.5												
	S	25	1:53 2.8	9:10 -0.1	14:24 2.1	21:20 0.3		Tu	25	2:07 2.6	9:30 0.0	14:55 2.1	21:52 0.4		F	25	3:10 2.2	10:18 0.2	16:00 2.3	23:00 0.5												
D	M	26	2:43 2.6	10:02 0.0	15:22 2.0	22:17 0.4	D	W	26	2:55 2.4	10:17 0.1	15:48 2.1	22:45 0.5	E	S	26	4:01 2.1	10:56 0.2	16:46 2.5	23:52 0.4												
	Tu	27	3:32 2.5	10:53 0.1	16:18 2.0	23:13 0.5		Th	27	3:47 2.2	11:03 0.2	16:38 2.2	23:38 0.5		S	27	4:50 2.0	11:23 0.3	17:32 2.6													
	W	28	4:25 2.3	11:43 0.2	17:12 2.1			F	28	4:37 2.1	11:48 0.3	17:27 2.3			M	28	5:42 0.4	12:12 2.0	18:52 0.3	24:46 2.7												
	Th	29	5:10 0.5	12:32 2.2	18:04 0.3	21		S	29	5:32 0.5	12:30 2.0	18:14 0.3	24		Tu	29	1:35 0.3	6:32 1.9	12:25 0.3	19:06 2.8												
	F	30	1:05 0.5	6:08 2.1	13:22 0.3	18:52 2.2		S	30	1:22 0.4	6:20 2.0	13:04 0.3	18:58 2.6		W	30	2:29 0.2	7:23 1.9	13:03 0.3	19:54 2.9												
A							M	31	2:12 0.3	7:08 2.0	13:34 0.3	19:41 2.7																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 76th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ♀, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		W.	Mo.									W.	Mo.									W.	Mo.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.									W.	Mo.									W.	Mo.										
N	F	1	5:47	11:28	18:40	23:48				M	1	0:15	7:05	12:40	19:58				W	1	0:45	7:41	13:02	20:24								
			—0.1	3.1	—0.2	2.4						2.3	0.0	3.0	—0.3						2.2	0.2	2.8	—0.2								
	S	2	6:37	12:17	19:30					N	Tu	2	1:08	8:02	13:30	20:50				Th	2	1:42	8:36	13:48	21:08							
			—0.1	3.1	—0.2							2.2	0.1	2.9	—0.2						2.2	0.3	2.6	—0.1								
	S	3	0:38	7:30	13:08	20:23						2:03	9:00	14:21	21:41				F	3	2:36	9:33	14:38	21:58								
			2.4	—0.1	3.0	—0.2						2.1	0.2	2.7	—0.1						2.2	0.4	2.4	0.0								
	M	4	1:30	8:23	14:00	21:15				☾	Th	4	3:02	9:55	15:14	22:30				☾	S	4	3:30	10:27	15:32	22:44						
			2.3	0.0	2.9	—0.1						2.1	0.3	2.5	0.0						2.2	0.4	2.3	0.1								
	Tu	5	2:25	9:18	14:51	22:10						3:57	10:55	16:04	23:20				S	5	4:23	11:22	16:18	23:30								
			2.1	0.1	2.8	0.0						2.1	0.4	2.3	0.1						2.2	0.4	2.1	0.2								
☾	W	6	3:20	10:18	15:50	23:03						4:54	11:52	16:57				E	M	6	5:12	12:14	17:09									
		2.1	0.2	2.6	0.0						2.1	0.4	2.2							2.8	0.5	2.0										
	Th	7	4:19	11:17	16:42	23:57						0:12	5:48	12:48	17:48				A	Tu	7	0:12	5:57	18:06	17:58							
		2.0	0.3	2.5	0.1						0.2	2.2	0.4	2.1						0.3	2.4	0.4	2.0									
	F	8	5:19	12:17	17:34							1:00	6:35	13:40	18:37						0:51	6:42	13:57	18:50								
		2.0	0.3	2.4							0.2	2.3	0.4	2.1						0.3	2.5	0.3	1.9									
	S	9	0:50	6:15	13:15	18:25				A	Tu	9	1:44	7:18	14:30	19:25						1:18	7:23	14:47	19:37							
		0.2	2.0	0.4	2.3					E		0.3	2.4	0.3	2.0						0.4	2.7	0.2	1.9								
	S	10	1:42	7:05	14:07	19:13						2:27	8:00	15:18	20:10						1:40	8:07	15:33	20:23								
		0.2	2.1	0.4	2.2							0.3	2.5	0.3	2.0						0.4	2.8	0.1	1.9								
	M	11	2:30	7:51	14:58	20:00						3:02	8:40	16:08	21:00						2:14	8:50	16:20	21:12								
		0.2	2.2	0.3	2.2							0.3	2.7	0.1	2.0						0.3	2.9	0.0	2.0								
	Tu	12	3:13	8:34	15:46	20:43				●	F	12	3:32	9:21	16:47	21:42				●	S	12	2:52	9:35	17:08	22:05						
		0.2	2.3	0.2	2.2							0.3	2.8	0.1	2.0						0.3	3.0	0.0	2.0								
E	W	13	3:53	9:13	16:30	21:27						3:53	10:02	17:33	22:29						3:42	10:22	17:52	22:57								
A			0.3	2.5	0.2	2.2						0.3	2.9	0.0	2.1						0.3	3.0	—0.1	2.1								
●	Th	14	4:32	9:53	17:13	22:12						4:20	10:47	18:15	23:15				S	Tu	14	4:37	11:07	18:40	23:36							
		0.3	2.6	0.1	2.2							0.3	3.0	0.0	2.1						0.3	3.0	—0.1	2.2								
	F	15	5:02	10:35	17:55	22:55						5:04	11:32	18:58	23:59						5:35	11:57	19:22									
		0.3	2.7	0.1	2.2							0.3	3.0	—0.1	2.1						0.3	3.0										
	S	16	5:27	11:16	18:38	23:40				S	Tu	16	5:46	12:18	19:45						Th	16	0:27	6:38	12:47	20:05						
		0.3	2.8	0.0	2.2							0.3	3.0	—0.1							2.2	0.3	2.9	—0.1								
	S	17	5:46	11:59	19:20							0:48	6:38	13:07	20:28						F	17	1:21	7:58	13:38	20:50						
		0.3	2.9	0.0								2.1	0.3	2.9	0.0						2.3	0.3	2.7	—0.1								
	M	18	0:22	6:20	12:45	20:03						1:38	7:42	13:58	21:12						S	18	2:14	9:04	14:30	21:32						
		2.1	0.3	2.9	0.0							2.2	0.3	2.8	0.0						2.4	0.3	2.6	0.0								
	Tu	19	1:10	7:00	13:32	20:48						2:33	8:52	14:52	21:57				☽	S	19	3:10	10:10	15:25	22:18							
		2.1	0.3	2.9	0.0							2.2	0.3	2.6	0.0						2.5	0.3	2.4	0.0								
S	W	20	2:00	7:50	14:22	21:35				☽	S	20	3:28	10:11	15:48	22:42				E	M	20	4:07	11:13	16:20	23:00						
		2.1	0.3	2.8	0.1							2.2	0.3	2.5	0.1						2.6	0.2	2.3	0.0								
	Th	21	2:52	8:47	15:15	22:20						4:27	11:20	16:45	23:30						Tu	21	5:03	12:15	17:16	23:42						
		2.1	0.3	2.7	0.1							2.4	0.3	2.4	0.1						2.7	0.2	2.1	0.1								
☽	F	22	3:47	9:54	16:10	23:10						5:24	12:29	17:42							W	22	5:58	13:15	18:10							
		2.2	0.3	2.6	0.1							2.6	0.2	2.3							2.8	0.1	2.1									
	S	23	4:44	11:15	17:10					E	Tu	23	0:12	6:20	13:33	18:38				P	Th	23	0:30	6:52	14:13	19:05						
		2.2	0.3	2.5								0.1	2.8	0.1	2.2						0.1	2.9	0.0	2.0								
	S	24	0:03	5:43	12:30	18:08						1:02	7:13	14:30	19:32						F	24	1:27	7:43	15:07	19:58						
		0.2	2.4	0.3	2.4							0.1	2.9	0.0	2.2						0.1	3.0	—0.1	2.0								
	M	25	0:54	6:42	13:43	19:05				P	Th	25	1:58	8:05	15:26	20:28						S	25	2:32	8:35	15:57	20:50					
		0.2	2.5	0.2	2.4							0.1	3.0	—0.1	2.2						0.1	3.1	—0.1	2.1								
	Tu	26	1:46	7:37	14:47	20:00						2:53	8:58	16:18	21:15				☾	S	26	3:32	9:22	16:48	21:45							
		0.1	2.7	0.0	2.4							0.0	3.1	—0.2	2.2						0.1	3.1	—0.2	2.1								
E	W	27	2:38	8:30	15:44	20:52				☾	S	27	3:52	9:47	17:08	22:07				N	M	27	4:34	10:12	17:37	22:36						
		0.1	2.9	—0.1	2.4							0.0	3.2	—0.3	2.2						0.1	3.0	—0.2	2.1								
○	Th	28	3:30	9:25	16:37	21:42						4:50	10:36	18:00	22:58						Tu	28	5:32	10:58	18:22	23:28						
		0.0	3.1	—0.2	2.4							0.1	3.2	—0.3	2.2						0.1	3.0	—0.2	2.2								
	F	29	4:22	10:12	17:30	22:33				N	M	29	5:48	11:23	18:47	23:51						W	29	6:27	11:45	19:07						
		0.0	3.1	—0.3	2.3							0.1	3.1	—0.3	2.2						0.2	2.8	—0.2									
	S	30	5:15	11:00	18:20	23:23						6:45	12:11	19:33							Th	30	0:22	7:20	12:30	19:53						
		0.0	3.2	—0.3	2.3							0.2	3.0	—0.3							2.2	0.3	2.7	—0.1								
	S	31	6:10	11:50	19:10																F	31	1:14	8:12	13:18	20:37						
		0																														

JANUARY.						FEBRUARY.						MARCH.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N O A E C P D	F	1	3:30 5.3	9:55 0.3	15:58 4.6	22:02 -0.1	M	1	5:06 5.4	11:38 0.6	17:45 4.4	23:32 0.0	N	M	1	3:45 5.1	10:17 0.7	16:25 4.2	22:16 0.3	
	S	2	4:28 5.5	10:55 0.3	17:03 4.6	23:00 -0.3	N	Tu	2	5:58 5.5	12:28 0.4	18:35 4.5		Tu	2	4:45 5.1	11:15 0.7	17:25 4.3	23:14 0.3	
	S	3	5:23 5.7	11:53 0.2	17:58 4.6	23:50 -0.4	W	3	0:22 -0.1	6:45 5.5	13:12 0.3	19:20 4.6	W	3	5:38 5.1	12:05 0.6	18:15 4.4			
	M	4	6:14 5.8	12:42 0.1	18:46 4.7		Th	4	1:10 -0.1	7:27 5.5	13:52 0.2	20:00 4.6	Th	4	0:04 0.2	6:25 5.1	12:47 0.4	18:57 4.6		
	Tu	5	0:38 -0.4	7:00 5.9	13:30 0.1	19:34 4.7	O	F	5	1:52 -0.1	8:07 5.5	14:30 0.1	20:35 4.6	F	5	0:50 0.1	7:05 5.2	13:25 0.2	19:34 4.6	
	W	6	1:24 -0.4	7:43 5.9	14:12 0.0	20:16 4.6	S	6	2:34 0.0	8:40 5.3	15:04 0.0	21:05 4.6	O A	S	6	1:32 0.1	7:40 5.2	14:00 0.1	20:05 4.7	
	Th	7	2:07 -0.3	8:26 5.8	14:52 0.0	20:55 4.6	S	7	3:10 0.2	9:15 5.2	15:40 0.1	21:37 4.6	S	7	2:10 0.1	8:15 5.1	14:32 0.1	20:32 4.8		
	F	8	2:50 -0.1	9:05 5.6	15:32 0.0	21:34 4.5	A	M	8	3:48 0.3	9:50 5.0	16:12 0.2	22:10 4.7	M	8	2:45 0.2	8:46 5.1	15:05 0.1	21:02 5.0	
	S	9	3:34 0.2	9:45 5.3	16:10 0.1	22:10 4.4	E	Tu	9	4:24 0.5	10:22 4.9	16:44 0.3	22:45 4.7	Tu	9	3:18 0.2	9:17 5.0	15:34 0.2	21:35 5.0	
	S	10	4:15 0.4	10:24 5.1	16:52 0.2	22:48 4.3	W	10	5:00 0.6	10:55 4.7	17:20 0.4	23:26 4.7	W	10	3:54 0.3	9:48 4.9	16:06 0.2	22:12 5.1		
	M	11	4:57 0.7	11:00 4.8	17:28 0.3	23:28 4.3	Th	11	5:45 0.7	11:32 4.5	18:00 0.5		Th	11	4:32 0.3	10:22 4.7	16:40 0.3	22:50 5.1		
	Tu	12	5:40 0.9	11:36 4.6	18:06 0.6		F	12	0:12 4.8	6:32 0.8	12:15 4.3	18:46 0.6	F	12	5:15 0.4	11:00 4.5	17:20 0.4	23:35 5.0		
W	13	0:10 4.3	6:25 1.0	12:15 4.3	18:50 0.6	C	S	13	1:06 4.8	7:28 0.9	13:06 4.1	19:38 0.6	S	13	6:02 0.6	11:42 4.4	18:08 0.6			
Th	14	1:00 4.4	7:16 1.1	13:02 4.2	19:35 0.6	S	14	2:02 4.8	8:33 0.9	14:10 4.0	20:40 0.6	C	S	14	0:28 4.9	6:58 0.7	12:35 4.2	19:05 0.6		
F	15	1:52 4.5	8:15 1.0	13:55 4.1	20:27 0.6	M	15	3:05 5.0	9:40 0.7	15:20 4.1	21:45 0.3	M	15	1:28 4.9	8:02 0.7	13:40 4.1	20:10 0.6			
S	16	2:50 4.7	9:14 0.9	14:55 4.1	21:20 0.5	Tu	16	4:07 5.2	10:42 0.5	16:30 4.3	22:46 0.0	S	Tu	16	2:35 5.0	9:10 0.7	14:55 4.1	21:18 0.4		
S	17	3:45 5.0	10:14 0.7	15:55 4.1	22:20 0.2	W	17	5:05 5.5	11:40 0.1	17:30 4.6	23:44 -0.3	W	17	3:40 5.1	10:15 0.4	16:05 4.4	22:25 0.1			
M	18	4:38 5.3	11:10 0.4	16:55 4.3	23:11 0.0	Th	18	6:02 5.9	12:30 -0.2	18:26 5.0		Th	18	4:45 5.4	11:12 0.1	17:08 4.8	23:24 -0.3			
Tu	19	5:32 5.7	12:02 0.1	17:52 4.6		F	19	0:40 -0.7	6:56 6.2	13:22 -0.6	19:18 5.3	F	19	5:42 5.6	12:05 -0.3	18:04 5.2				
W	20	0:03 -0.3	6:24 6.0	12:54 -0.2	18:47 4.8	P	S	20	1:34 -0.9	7:47 6.3	14:10 -0.8	20:08 5.7	S	20	0:20 -0.6	6:36 5.9	12:55 -0.6	18:56 5.7		
Th	21	0:55 -0.6	7:14 6.3	13:44 -0.5	19:36 5.1	S	21	2:22 -1.1	8:36 6.3	14:55 -1.0	20:57 5.9	P	S	21	1:15 -0.9	7:26 6.2	13:44 -0.9	19:48 6.0		
F	22	1:46 -0.8	8:05 6.4	14:32 -0.7	20:26 5.3	E	M	22	3:14 -1.0	9:25 6.3	15:45 -0.9	21:48 6.0	E	M	22	2:06 -1.1	8:14 6.2	14:30 -1.0	20:36 6.2	
S	23	2:38 -0.8	8:54 6.4	15:20 -0.8	21:17 5.4	Tu	23	4:06 -0.9	10:15 6.0	16:30 -0.8	22:40 5.9	Tu	23	2:56 -1.1	9:02 6.0	15:15 -1.0	21:25 6.3			
S	24	3:30 -0.8	9:45 6.2	16:10 -1.0	22:07 5.5	W	24	5:00 -0.6	11:05 5.6	17:20 -0.6	23:35 5.8	W	24	3:48 -1.0	9:52 5.8	16:04 -0.8	22:17 6.2			
M	25	4:20 -0.6	10:35 5.9	16:56 -0.7	23:03 5.5	Th	25	5:58 -0.3	11:58 5.1	18:10 -0.3		Th	25	4:40 -0.7	10:42 5.4	16:55 -0.6	23:10 5.9			
Tu	26	5:20 -0.3	11:30 5.6	17:46 -0.4		D	F	26	0:32 5.5	6:56 0.1	12:58 4.7	19:10 0.0	F	26	5:35 -0.3	11:35 6.0	17:46 -0.3			
W	27	0:00 5.4	6:18 -0.1	12:25 5.2	18:40 -0.2	S	27	1:35 5.3	8:02 0.4	14:05 4.3	20:10 0.2	S	27	0:06 5.6	6:34 0.1	12:35 4.6	18:44 0.1			
Th	28	1:00 5.3	7:20 0.1	13:25 4.8	19:36 -0.1	S	28	2:40 5.1	9:10 0.7	15:17 4.2	21:15 0.3	D	S	28	1:06 5.3	7:36 0.4	13:40 4.2	19:45 0.3		
F	29	2:00 5.2	8:26 0.3	14:30 4.5	20:36 0.0								M	29	2:10 5.0	8:40 0.6	14:50 4.1	20:50 0.5		
S	30	3:05 5.2	9:35 0.5	15:40 4.3	21:38 0.1								Tu	30	3:15 4.9	9:45 0.7	16:00 4.1	21:54 0.6		
S	31	4:10 5.3	10:40 0.6	16:46 4.3	22:37 0.0								W	31	4:15 4.8	10:40 0.7	16:56 4.2	22:50 0.5		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	5:08 4.8	11:28 0.5	17:45 4.4	23:42 0.6	E	S	1	5:15 4.5	11:28 0.4	17:42 4.7	23:54 0.6	O	Tu	1	5:48 4.3	12:00 0.1	18:12 5.3	23:54 5.8												
	F	2	5:55 4.8	12:10 0.4	18:24 4.6	24:00 5.1		W	2	6:38 0.3	6:30 4.4	12:40 0.1	18:54 5.6																			
	S	3	6:25 0.4	6:35 4.9	12:50 0.8	18:57 4.7		Th	3	1:20 0.1	7:10 4.5	13:20 0.0	19:34 5.7																			
	S	4	1:06 0.3	7:09 4.9	13:24 0.2	19:28 4.9		F	4	2:04 0.0	7:50 4.6	14:00 -0.1	20:18 5.8																			
	M	5	1:42 0.2	7:42 4.9	13:56 0.1	19:58 5.1		S	5	2:48 -0.1	8:32 4.6	14:45 -0.1	21:06 5.9																			
E	Tu	6	2:19 0.1	8:13 4.9	14:27 0.1	20:30 5.2	O	Th	6	2:28 0.0	8:15 4.7	14:30 0.1	20:38 5.5	S	S	6	3:35 -0.1	9:20 4.6	15:32 0.0	21:52 5.8												
	W	7	2:53 0.0	8:46 4.8	15:01 0.1	21:03 5.3		F	7	3:08 0.0	8:55 4.6	15:07 0.1	21:21 5.6																			
	Th	8	3:28 0.0	9:20 4.7	15:37 0.2	21:42 5.4		S	8	3:52 0.0	9:35 4.6	15:48 0.2	22:06 5.6																			
	F	9	4:10 0.1	9:55 4.6	16:12 0.3	22:24 5.3		W	9	4:38 0.1	10:20 4.5	16:35 0.3	22:56 5.4																			
	S	10	4:55 0.2	10:35 4.5	16:56 0.4	23:12 5.2		M	10	5:30 0.2	11:11 4.4	17:30 0.5	23:48 5.3																			
S	S	11	5:43 0.4	11:22 4.3	17:45 0.6	23:42 5.3	C	Tu	11	6:25 0.3	12:10 4.3	18:30 0.5	24:00 5.4	E	F	11	1:34 5.0	7:58 0.1	14:10 4.9	20:28 0.3												
	M	12	6:05 5.1	6:40 0.5	12:18 4.2	18:44 0.6		W	12	6:50 5.1	7:24 0.3	13:16 4.4	19:34 0.5																			
	Tu	13	1:05 5.0	7:41 0.5	13:25 4.1	19:49 0.6		Th	13	1:52 4.9	8:22 0.3	14:25 4.6	20:42 0.4																			
	W	14	2:10 4.9	8:45 0.5	14:38 4.3	20:57 0.4		F	14	2:55 4.9	9:22 0.2	15:30 4.9	21:48 0.2																			
	Th	15	3:17 5.0	9:48 0.3	15:47 4.6	22:03 0.1		S	15	3:58 5.0	10:17 -0.1	16:30 5.3	22:52 -0.1																			
P	F	16	4:21 5.2	10:45 0.0	16:47 5.0	23:08 -0.2	E	S	16	4:55 5.1	11:12 -0.4	17:23 5.7	23:47 -0.4	N	W	16	6:36 -0.2	6:30 4.9	12:28 -0.6	18:50 6.1												
	S	17	5:19 5.4	11:38 -0.3	17:43 5.5	24:00 5.9		M	17	5:50 5.2	12:02 -0.6	18:16 6.0	24:00 6.2																			
	S	18	6:04 -0.5	6:13 5.6	12:28 -0.6	18:36 5.9		Tu	18	6:42 -0.6	6:45 5.3	12:50 -0.8	19:05 6.3																			
	M	19	6:58 -0.8	7:04 5.7	13:16 -0.8	19:25 6.2		W	19	1:33 -0.7	7:35 5.3	13:38 -0.8	19:56 6.4																			
	Tu	20	1:30 -1.0	7:53 5.7	14:08 -1.0	20:15 6.4		Th	20	2:22 -0.6	8:25 5.2	14:25 -0.8	20:45 6.3																			
N	W	21	2:40 -1.0	8:42 5.6	14:50 -0.9	21:05 6.4	N	F	21	3:12 -0.5	9:12 5.0	15:15 -0.6	21:34 6.1	E	S	21	4:26 0.0	10:39 4.5	16:32 0.2	22:45 5.3												
	Th	22	3:30 -0.8	9:32 5.4	15:32 -0.7	21:54 6.2		S	22	4:00 -0.3	10:04 4.8	16:05 -0.3	22:24 5.8																			
	F	23	4:20 -0.6	10:22 5.1	16:28 -0.5	22:47 5.9		S	23	4:50 -0.1	10:54 4.6	16:56 0.0	23:14 5.5																			
	S	24	5:15 -0.2	11:15 4.8	17:20 -0.1	23:40 5.5		M	24	5:42 0.1	11:47 4.4	17:50 0.4	24:00 5.6																			
	S	25	6:08 0.1	12:10 4.5	18:17 0.2	24:00 5.9		Tu	25	6:05 5.1	6:34 0.3	12:44 4.3	18:47 0.7																			
D	M	26	6:38 5.2	7:07 0.4	13:14 4.2	19:17 0.6	D	W	26	1:00 4.8	7:28 0.5	13:42 4.2	19:45 0.9	A	S	26	1:50 4.2	8:16 0.6	14:34 4.4	20:48 1.0												
	Tu	27	1:37 4.9	8:06 0.6	14:20 4.1	20:20 0.7		Th	27	1:54 4.5	8:20 0.6	14:38 4.2	20:43 1.0																			
	W	28	2:38 4.6	9:05 0.6	15:22 4.1	21:23 0.8		F	28	2:47 4.3	9:10 0.6	15:28 4.3	21:38 1.0																			
	Th	29	3:38 4.5	9:58 0.7	16:16 4.3	22:18 0.8		S	29	3:36 4.3	9:55 0.5	16:14 4.5	22:27 0.8																			
	F	30	4:28 4.5	10:46 0.6	17:02 4.4	23:10 0.7		S	30	4:24 4.2	10:38 0.4	16:55 4.8	23:12 0.7																			
A							E	M	31	5:06 4.3	11:18 0.3	17:34 5.0	23:55 0.5																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian, W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾ 1st quart.; ○, full moon; ☾ 3d quart.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
C	Th	1	0:05 0.4	5:57 4.8	12:06 0.0	18:24 5.7				○	S	1	1:18 -0.2	7:10 4.8	13:22 -0.5	19:38 6.1				P	W	1	2:27 -0.8	8:28 5.8	14:45 -0.9	20:57 6.1			
	F	2	0:55 0.1	6:42 4.5	12:52 -0.1	19:12 5.9					M	2	2:05 -0.4	8:00 5.1	14:14 -0.6	20:28 6.1				E	Th	2	3:15 -0.8	9:18 5.9	15:37 -0.8	21:46 5.6			
	S	3	1:40 -0.1	7:28 4.6	13:40 -0.2	19:57 6.0				P	Tu	3	2:55 -0.6	8:48 5.3	15:04 -0.6	21:18 6.1					F	3	4:02 -0.7	10:10 5.9	16:32 -0.7	22:36 5.6			
	S	4	2:28 -0.2	8:18 4.7	14:28 -0.3	20:46 6.1					W	4	3:42 -0.7	9:40 5.4	15:55 -0.6	22:08 5.9					S	4	4:50 -0.6	11:05 5.8	17:37 -0.4	23:30 5.2			
	M	5	3:16 -0.3	9:06 4.8	15:20 -0.3	21:35 6.0					Th	5	4:30 -0.6	10:32 5.5	16:50 -0.4	23:00 5.6					S	5	5:43 -0.3	12:03 5.6	18:28 -0.1				
P	Tu	6	4:05 -0.3	9:58 4.9	16:16 -0.2	22:27 5.8				E	F	6	5:18 -0.4	11:28 5.5	17:48 -0.2	23:54 5.3				☾	M	6	6:30 4.8	6:42 -0.1	13:05 4.9	19:34 0.3			
	W	7	4:55 -0.3	10:50 5.0	17:05 -0.1	23:20 5.5					S	7	6:10 -0.3	12:28 5.4	18:50 0.0					N	Tu	7	1:35 4.4	7:43 0.1	14:10 5.3	20:40 0.5			
	Th	8	5:45 -0.3	11:48 5.0	18:05 0.1				☾	S	8	6:50 4.9	7:16 -0.2	13:30 5.4	19:54 0.2						W	8	2:47 4.3	8:47 0.2	15:15 5.2	21:47 0.6			
	F	9	6:16 5.2	6:38 -0.1	12:50 5.1	19:08 0.2					M	9	1:55 4.6	8:06 -0.1	14:34 5.3	21:00 0.4					Th	9	3:57 4.3	9:50 0.2	16:17 5.2	22:46 0.5			
	S	10	1:15 5.0	7:35 -0.1	13:50 5.2	20:12 0.2					Tu	10	3:04 4.4	9:05 0.0	15:35 5.4	22:05 0.5					F	10	4:57 4.4	10:50 0.1	17:13 5.3	23:37 0.4			
N	S	11	2:14 4.7	8:30 -0.1	14:52 5.3	21:16 0.3					W	11	4:10 4.4	10:06 -0.1	16:36 5.4	23:05 0.4					S	11	5:48 4.6	11:43 0.0	18:02 5.3				
	M	12	3:18 4.6	9:28 -0.2	15:54 5.5	22:20 0.3				N	Th	12	5:10 4.5	11:03 -0.1	17:30 5.5						S	12	6:22 0.3	6:33 4.7	12:30 0.0	18:45 5.3			
	Tu	13	4:24 4.6	10:25 -0.3	16:50 5.7	23:20 0.2					F	13	6:00 0.4	6:05 4.6	11:56 -0.2	18:20 5.6					M	13	1:01 0.1	7:31 4.8	13:15 0.0	19:23 5.3			
	W	14	5:22 4.6	11:18 -0.3	17:43 5.8						S	14	6:47 0.2	6:54 4.7	12:46 -0.2	19:06 5.6				●	Tu	14	1:39 0.0	7:45 4.9	13:55 0.0	19:59 5.2			
	Th	15	6:14 0.2	8:16 4.6	12:10 -0.4	18:35 5.9			●	S	15	1:30 0.1	7:36 4.7	13:32 -0.2	19:50 5.5						W	15	2:15 0.0	8:17 4.9	14:31 0.1	20:30 5.0			
A	F	16	1:05 0.1	7:06 4.7	13:00 -0.4	19:22 5.9					M	16	2:10 0.0	8:16 4.7	14:16 -0.1	20:26 5.4				E	Th	16	2:48 0.1	8:48 5.0	15:57 0.2	21:02 4.9			
	S	17	1:50 0.0	7:55 4.7	13:48 -0.3	20:06 5.8					Tu	17	2:47 0.0	8:50 4.7	14:58 0.1	21:05 5.2					F	17	3:18 0.2	9:21 5.0	16:42 0.3	21:33 4.7			
	S	18	2:35 0.0	8:40 4.7	14:35 -0.2	20:50 5.7					W	18	3:24 0.0	9:26 4.7	15:36 0.3	21:40 5.0					S	18	3:49 0.3	9:55 5.0	16:18 0.4	22:16 4.5			
	M	19	3:15 0.0	9:20 4.6	15:20 0.0	21:34 5.4				A	Th	19	3:58 0.2	10:00 4.7	16:15 0.5	22:12 4.8					S	19	4:23 0.5	10:34 5.0	16:59 0.5	22:42 4.4			
	Tu	20	3:56 0.0	10:00 4.6	16:05 0.3	22:12 5.2				E	F	20	4:32 0.3	10:37 4.7	16:53 0.6	22:45 4.6					M	20	5:04 0.6	11:17 4.9	17:45 0.7	23:23 4.2			
D	W	21	4:38 0.1	10:40 4.5	16:48 0.5	22:52 4.9					S	21	5:08 0.4	11:15 4.7	17:34 0.7	23:21 4.4					Tu	21	5:48 0.7	12:06 4.8	18:38 0.8				
	Th	22	5:18 0.3	11:21 4.4	17:34 0.7	23:32 4.6					S	22	5:47 0.6	11:59 4.7	18:20 0.8					D	W	22	6:13 4.1	6:42 0.8	13:04 4.8	19:40 0.8			
	F	23	5:58 0.4	12:05 4.4	18:20 0.9				D	M	23	6:02 4.2	6:30 0.7	12:48 4.7	19:13 0.9					S	Th	23	1:16 4.0	7:45 0.8	14:07 4.8	20:44 0.7			
	S	24	6:10 4.4	6:38 0.5	12:50 4.5	19:06 1.0					Tu	24	6:50 4.1	7:20 0.7	13:42 4.7	20:12 0.9					F	24	2:17 4.1	8:51 0.6	15:13 5.0	21:45 0.5			
	S	25	6:52 4.2	7:22 0.6	13:40 4.5	20:00 1.0					W	25	1:47 4.0	8:18 0.6	14:41 4.9	21:08 0.8					S	25	3:38 4.3	9:55 0.2	16:15 5.2	22:43 0.1			
S	M	26	1:40 4.1	8:10 0.6	14:30 4.7	20:54 1.0					Th	26	2:53 4.0	9:20 0.5	15:42 5.1	22:04 0.6					S	26	4:39 4.7	10:55 -0.1	17:12 5.5	23:37 -0.3			
	Tu	27	2:34 4.0	9:00 0.5	15:22 4.9	21:50 0.8				S	F	27	4:00 4.2	10:20 0.2	16:40 5.4	23:10 0.3					M	27	5:35 5.2	11:52 -0.5	18:05 5.8				
	W	28	3:30 4.0	9:55 0.4	16:15 5.1	22:45 0.6					S	28	5:01 4.5	11:17 -0.1	17:35 5.7						Tu	28	6:26 -0.6	6:27 5.6	12:45 -0.8	18:57 6.0			
	Th	29	4:30 4.1	10:48 0.2	17:08 5.4	23:38 0.3					S	29	6:02 -0.1	5:57 4.9	12:12 -0.5	18:27 5.9					W	29	1:13 -0.8	7:17 6.0	13:37 -1.0	19:45 6.1			
	F	30	5:28 4.3	11:40 -0.1	18:00 5.7						M	30	6:52 -0.4	6:48 5.2	13:03 -0.7	19:18 6.1					Th	30	2:00 -1.0	8:05 6.2	14:28 -1.1	20:33 6.0			
	S	31	6:28 0.1	6:18 4.6	12:30 -0.3	18:50 6.0				○	Tu	31	1:40 -0.7	7:38 5.6	13:54 -0.9	20:08 6.2													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Eastern Standard, 75th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ♀, 1st quart.; ○, full moon; ☾, 3d quart.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N C	F	1	2:47	8:55	15:20	21:23				M	1	4:00	10:20	16:48	22:48			W	1	4:30	10:48	17:15	23:18						
			-1.0	6.3	-1.0	5.7						-0.6	6.1	-0.4	4.9					-0.2	5.7	-0.1	4.5						
	S	2	3:35	9:47	16:12	22:14				N	Tu	2	4:55	11:15	17:44	23:46			Th	2	5:24	11:40	18:08						
			-0.8	6.2	-0.8	5.4						-0.2	5.7	0.0	4.5					0.2	5.3	0.2							
	S	3	4:25	10:42	17:07	23:09					W	3	5:52	12:14	18:42			F	3	6:16	12:23	12:35	19:02						
			-0.6	6.0	-0.4	5.0						0.1	5.3	0.3					4.3	0.5	4.9	0.4							
	M	4	5:19	11:38	18:07				C	Th	4	6:50	6:55	13:15	19:45		C	S	4	1:18	7:23	13:34	19:58						
			-0.3	5.7	0.0							4.3	0.4	5.0	0.5					4.3	0.8	4.6	0.5						
	Tu	5	6:08	6:17	12:40	19:11					F	5	7:00	8:00	14:20	20:45			S	5	2:18	8:24	14:30	20:50					
			4.6	0.0	5.4	0.3						4.2	0.6	4.7	0.5					4.2	0.9	4.3	0.6						
E A	W	6	1:15	7:22	13:46	20:17				S	6	3:06	9:07	15:22	21:42		E	M	6	3:12	9:24	15:25	21:40						
			4.3	0.3		0.5					4.3	0.7	4.6	0.5					4.3	1.0	4.2	0.5							
	Th	7	2:28	8:27	14:53	21:20				S	7	4:00	10:05	16:16	22:30			Tu	7	4:00	10:15	16:15	22:24						
			4.2	0.4	5.0	0.6					4.4	0.7	4.6	0.4					4.5	0.9	4.2	0.4							
	F	8	3:36	9:33	15:55	22:18				M	8	4:50	10:58	17:05	23:14			W	8	4:45	11:04	17:00	23:05						
			4.3	0.5	4.9	0.5					4.6	0.6	4.6	0.3					4.7	0.8	4.2	0.3							
	S	9	4:35	10:32	16:50	23:07			A	Tu	9	5:30	11:42	17:46	23:52			Th	9	5:22	11:45	17:42	23:45						
			4.4	0.4	4.9	0.4		E			4.8	0.5	4.6	0.2					5.0	0.6	4.2	0.2							
	S	10	5:24	11:24	17:38	23:52				W	10	6:06	12:20	18:24				F	10	6:00	12:25	18:20							
			4.6	0.3	4.9	0.3						5.0	0.3	4.6					5.2	0.4	4.3								
D	M	11	6:06	12:10	18:20					Th	11	6:27	6:38	12:58	18:56			S	11	6:25	6:37	13:05	18:56						
			4.8	0.2	4.9							0.1	5.2	0.2	4.6					0.1	5.4	0.2	4.4						
	Tu	12	6:32	6:41	12:32	18:55			●	F	12	1:02	7:12	13:35	19:28		●	S	12	1:03	7:18	13:45	19:34						
			0.1	4.9	0.2	4.9						0.0	5.3	0.1	4.6					0.0	5.6	0.1	4.5						
	W	13	1:06	7:13	13:38	19:27				S	13	1:36	7:48	14:12	20:02			M	13	1:40	7:55	14:25	20:10						
			0.1	5.1	0.1	4.9						0.0	5.5	0.1	4.5					0.0	5.8	-0.1	4.5						
	Th	14	1:40	7:44	14:02	19:59				S	14	2:10	8:22	14:50	20:34		S	Tu	14	2:22	8:40	15:10	20:50						
			0.1	5.2	0.1	4.8						0.1	5.5	0.1	4.5					0.0	5.8	-0.1	4.6						
	F	15	2:10	8:15	14:38	20:30				M	15	2:45	9:00	15:30	21:08			W	15	3:05	9:22	15:55	21:38						
			0.1	5.2	0.1	4.7						0.2	5.6	0.1	4.4					0.1	5.8	-0.1	4.6						
S	S	16	2:43	8:47	15:14	21:00			S	Tu	16	3:24	9:42	16:15	21:50			Th	16	3:52	10:10	16:40	22:26						
			0.2	5.2	0.2	4.6						0.3	5.5	0.2	4.4					0.2	5.6	0.0	4.6						
	S	17	3:18	9:24	15:50	21:32				W	17	4:08	10:28	17:00	22:40			F	17	4:44	11:00	17:30	23:22						
			0.3	5.3	0.2	4.5						0.5	5.4	0.3	4.3					0.3	5.4	0.0	4.6						
	M	18	3:50	10:02	16:32	22:10				Th	18	5:00	11:18	17:55	23:36			S	18	5:38	11:53	18:24							
			0.4	5.2	0.4	4.3						0.6	5.2	0.4	1.0					0.4	5.1	0.1							
	Tu	19	4:30	10:48	17:20	22:55				F	19	5:55	12:16	18:52			D	S	19	6:22	6:40	12:50	19:18						
			0.6	5.1	0.5	4.2						0.7	5.0	0.4					4.6	0.5	4.9	0.2							
	W	20	5:17	11:38	18:14	23:50			D	S	20	6:40	7:00	13:18	19:50		E	M	20	7:26	7:46	13:54	20:16						
			0.7	5.0	0.6	4.1						4.3	0.7	4.8	0.4					4.8	0.5	4.7	0.1						
P	Th	21	6:14	12:36	19:14					S	21	1:52	8:10	14:24	20:50			Tu	21	2:32	8:56	14:56	21:15						
			0.8	4.9	0.6							4.5	0.6	4.8	0.3					5.0	0.4	4.6	0.0						
	F	22	6:55	7:18	13:42	20:18				M	22	2:58	9:18	15:26	21:45			W	22	3:35	10:02	16:00	22:14						
			4.1	0.8	4.9	0.6						4.8	0.4	4.9	0.0					5.8	0.2	4.7	-0.3						
	S	23	2:08	8:27	14:47	21:20			E	Tu	23	4:00	10:24	16:26	22:42		P	Th	23	4:35	11:04	17:05	23:10						
			4.2	0.6	4.9	0.3						5.2	0.0	5.0	-0.3					5.6	0.0	4.7	-0.5						
	S	24	3:18	9:36	15:50	22:15				W	24	4:55	11:18	17:20	23:30			F	24	5:30	12:00	18:00							
			4.5	0.3	5.0	0.1						5.6	-0.3	5.1	-0.6					5.9	-0.2	4.8							
	M	25	4:20	10:38	16:50	23:10			P	Th	25	5:45	12:14	18:15				S	25	6:22	6:22	12:50	18:50						
			5.0	-0.1	5.3	-0.3						6.0	-0.6	5.3						-0.7	6.2	-0.3	4.9						
E F O	Tu	26	5:15	11:35	17:43	23:57				F	26	6:20	6:36	13:05	19:05		O	S	26	6:50	7:12	13:40	19:40						
			5.5	-0.5	5.6	-0.6						-0.8	6.3	-0.7	5.3					-0.8	6.3	-0.4	5.0						
	W	27	6:06	12:30	18:34					S	27	1:10	7:26	13:55	19:55		N	M	27	1:40	8:00	14:28	20:28						
			5.9	-0.7	5.7							-1.0	6.5	-0.7	5.3					-0.8	6.3	-0.5	5.0						
	Th	28	6:48	6:57	13:20	19:24				S	28	2:00	8:15	14:45	20:43			Tu	28	2:30	8:50	15:15	21:16						
			-0.9	6.3	-1.1	5.7						-1.0	6.5	-0.7	5.2					-0.7	6.2	-0.4	4.9						
	F	29	1:35	7:46	14:12	20:14			N	M	29	2:46	9:05	15:34	21:35			W	29	3:20	9:35	16:00	22:04						
			-1.1	6.5	-1.1	5.7						-0.7	6.4	-0.5	5.0					-0.5	5.9	-0.3	4.5						
	S	30	2:22	8:35	15:02	21:04				T	30	3:38	9:56	16:24	22:25			Th	30	4:06	10:22	16:48	22:50						
			-1.1	6.5	-0.9	5.5						-0.5	6.1	-0.3	4.8					-0.2	5.6	-0.1	4.6						
		3:10	9:27	15:54	21:55												F	31	4:58	11:08	17:34	23:40							
		-0.9	6.4	-0.7	5.2														0.2	5.2	0.1	4.5							

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
	F	1	2:13 6.9	8:45 0.3	14:48 6.2	20:54 -0.1				M	1	3:47 0.9	10:23 0.4	16:29 5.9	22:21 0.0		N	M	1	2:26 6.5	9:04 0.7	15:05 5.6	21:08 0.5						
	S	2	3:12 7.1	9:46 0.2	15:44 6.2	21:49 -0.3			N	Tu	2	4:39 7.0	11:14 0.3	17:11 6.0	23:12 -0.1			Tu	2	3:25 6.5	10:00 0.7	16:05 5.7	22:05 0.4						
	S	3	4:06 7.3	10:40 0.1	16:37 6.2	22:39 -0.4				W	3	5:25 7.1	11:58 0.2	17:56 6.1				W	3	4:20 6.5	10:50 0.5	16:54 5.9	22:57 0.3						
	M	4	4:57 7.5	11:30 0.0	17:26 6.3	23:29 -0.5				Th	4	6:00 -0.1	12:10 7.1	18:39 0.1	18:38 6.2			Th	4	5:07 6.6	11:34 0.3	17:38 6.1	23:42 0.2						
	Tu	5	5:44 7.5	12:16 -0.1	18:11 6.3			☾	F	5	6:44 -0.1	12:50 7.0	19:18 0.0	19:16 6.3				F	5	5:51 6.7	12:12 0.2	18:15 6.3							
N	W	6	6:16 -0.4	12:30 7.5	19:55 -0.1	18:55 6.3				S	6	1:26 0.1	7:30 6.9	13:53 0.0	19:53 6.3	☾		S	6	6:24 0.1	6:30 6.7	12:49 7.0	18:51 0.0	6.5					
	Th	7	1:02 -0.3	7:11 7.4	13:40 -0.1	19:38 6.3		A	S	7	2:02 0.2	8:10 6.7	14:29 0.1	20:29 6.3		A		S	7	1:01 0.1	7:08 6.6	13:21 6.1	19:25 6.6						
	F	8	1:46 0.0	7:52 7.2	14:20 0.0	20:20 6.1			M	8	2:40 0.4	8:45 6.5	15:03 0.3	21:07 6.3		E		M	8	1:37 0.2	7:40 6.6	13:52 0.2	19:59 6.6						
	S	9	2:28 0.2	8:33 6.9	15:00 0.1	21:00 6.0		E	Tu	9	3:16 0.6	9:22 6.3	15:36 0.5	21:45 6.2			Tu	9	2:10 0.2	8:14 6.6	14:25 0.2	20:33 6.6							
	S	10	3:09 0.6	9:14 6.5	15:39 0.3	21:41 5.9			W	10	3:55 0.8	10:00 6.1	16:15 0.6	22:25 6.2			W	10	2:47 0.3	8:49 6.5	14:59 0.3	21:08 6.6							
A	M	11	3:50 0.9	9:55 6.2	16:19 0.6	22:25 5.8			Th	11	4:40 0.8	10:42 6.0	16:57 0.7	23:11 6.2			Th	11	3:25 0.3	9:25 6.2	15:35 0.5	21:48 6.5							
	Tu	12	4:33 1.1	10:38 5.9	17:00 0.8	23:10 5.8			F	12	5:28 0.9	11:28 5.7	17:44 0.8				F	12	4:06 0.4	10:06 6.0	16:18 0.6	22:32 6.5							
E	W	13	5:20 1.2	11:25 5.7	17:44 0.9	23:57 5.9		☾	S	13	6:01 6.2	12:25 1.0	18:21 5.6	18:39 0.8			S	13	4:55 0.6	10:55 5.8	17:05 0.7	23:24 6.4							
☾	Th	14	6:11 1.2	12:14 5.6	18:32 0.9				S	14	6:51 6.3	13:16 1.0	19:17 5.5	19:37 0.7	☾		S	14	5:52 0.8	11:50 5.6	18:00 0.8								
	F	15	6:48 6.0	7:07 1.2	13:06 5.5	19:24 0.8			M	15	1:59 6.5	8:30 0.8	14:26 5.6	20:40 0.5			M	15	9:24 6.3	6:55 0.8	12:54 5.6	19:06 0.8							
	S	16	1:39 6.2	8:05 1.0	14:01 5.5	20:17 0.6		S	Tu	16	3:00 6.8	9:33 0.5	15:23 5.9	21:40 0.1		S	Tu	16	1:29 6.4	8:04 0.7	14:02 5.7	20:15 0.5							
	S	17	2:34 6.5	9:04 0.8	14:58 5.7	21:13 0.3			W	17	3:59 7.1	10:29 0.1	16:26 6.3	22:38 -0.4			W	17	2:35 6.6	9:08 0.4	15:08 6.1	21:22 0.1							
	M	18	3:29 6.9	10:00 0.4	15:54 5.9	22:05 0.0			Th	18	4:54 7.5	11:21 -0.4	17:21 6.8	23:34 -0.8			Th	18	3:36 7.0	10:05 0.0	16:10 6.6	22:32 -0.4							
	Tu	19	4:22 7.3	10:54 0.1	16:46 6.2	22:59 -0.3			F	19	5:46 7.9	12:12 -0.8	18:11 7.2				F	19	4:35 7.3	10:58 -0.5	17:04 7.1	23:16 -0.8							
S	W	20	5:15 7.7	11:43 -0.3	17:39 6.5	23:50 -0.6	●	P	S	20	6:25 -1.0	6:38 8.0	13:02 -1.1	19:05 7.6			S	20	5:30 7.7	11:48 -1.0	17:54 7.7								
●	Th	21	6:05 8.0	12:33 -0.6	18:29 6.9				S	21	1:17 -1.2	7:29 8.1	13:49 -1.2	19:52 7.8	P		S	21	6:09 -1.2	6:20 8.0	12:36 -1.2	18:44 8.0							
	F	22	6:40 -0.8	6:55 8.1	13:21 -0.8	19:20 7.1		E	M	22	2:07 -1.2	8:19 8.0	14:35 -1.2	20:43 7.9	E		M	22	1:00 -1.4	7:10 8.1	13:24 -1.3	19:30 8.1							
P	S	23	1:31 -0.9	7:45 8.1	14:10 -0.9	20:10 7.2			Tu	23	2:59 -1.0	9:10 7.8	15:23 -0.9	21:33 7.7			Tu	23	1:48 -1.4	7:57 8.0	14:10 -1.3	20:18 8.2							
	S	24	2:22 -0.8	8:35 7.9	14:59 -0.9	21:04 7.3			W	24	3:51 -0.8	10:00 7.4	16:11 -0.6	22:24 7.5			W	24	2:40 -1.3	8:46 7.7	14:57 -1.1	21:05 8.0							
	M	25	3:16 -0.6	9:29 7.6	15:49 -0.8	21:58 7.2			Th	25	4:46 -0.4	10:54 6.9	17:05 -0.3	23:20 7.2			Th	25	3:30 -0.9	9:35 7.2	15:45 -0.7	21:58 7.6							
E	Tu	26	4:11 -0.4	10:23 7.2	16:40 -0.6	22:51 7.1		☽	F	26	5:46 0.1	11:50 6.3	18:01 0.0				F	26	4:24 -0.4	10:27 6.7	16:36 -0.3	22:52 7.2							
	W	27	5:10 -0.2	11:20 6.9	17:34 -0.2	23:48 7.0			S	27	6:19 6.8	12:51 0.5	19:01 5.9	19:01 0.3			S	27	5:20 0.1	11:24 6.2	17:34 0.2	23:50 6.7							
☽	Th	28	6:14 0.1	12:19 6.5	18:30 -0.1				S	28	1:22 6.6	8:00 0.7	13:59 5.7	20:05 0.5	N		S	28	6:23 0.5	12:27 5.8	18:36 0.6								
	F	29	6:47 6.9	7:17 8.4	13:20 6.1	19:29 0.1										M	29	6:52 6.3	7:28 0.8	13:34 5.6	19:42 0.8								
	S	30	1:49 6.8	8:23 8.5	14:22 5.9	20:29 0.1										Tu	30	1:57 6.1	8:32 0.8	14:40 5.6	20:46 0.8								
	S	31	2:49 6.8	9:25 8.5	15:24 5.9	21:26 0.0										W	31	2:58 6.1	9:30 0.7	15:40 5.8	21:45 0.7								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	3:56 6.1	10:18 0.5	16:28 6.0	22:35 0.5	E	S	1	4:10 5.9	10:20 0.6	16:32 6.2	22:50 0.6	O	Tu	1	4:48 6.0	10:56 0.2	17:06 6.9	23:35 0.2
	F	2	4:45 6.2	11:05 0.5	17:10 6.2	23:20 0.4		S	2	4:50 6.1	11:00 0.3	17:10 6.5	23:26 0.3		W	2	5:25 6.2	11:36 0.0	17:44 7.3	
	S	3	5:28 6.3	11:40 0.3	17:46 6.4			M	3	5:28 6.3	11:36 0.2	17:42 6.8			Th	3	6:10 0.0	12:06 6.3	18:16 —0.1	18:26 7.5
E	S	4	6:00 0.3	6:04 6.4	12:14 0.2	18:20 6.6	O	Tu	4	6:02 0.1	6:02 6.4	12:12 0.0	18:18 7.0	S	F	4	6:52 —0.2	6:46 6.4	12:55 —0.2	19:10 7.6
	M	5	6:34 0.2	6:38 6.6	12:48 0.1	18:54 6.7		W	5	6:40 —0.1	6:35 6.4	12:46 0.0	18:53 7.3		S	5	7:28 —0.3	7:28 6.4	13:40 —0.1	19:54 7.6
	Tu	6	7:08 0.0	7:10 6.6	13:20 0.0	19:25 6.9		Th	6	7:11 —0.2	7:11 6.4	13:22 0.0	19:30 7.4		S	6	8:15 —0.3	8:15 6.4	14:24 0.0	20:40 7.5
S	W	7	7:42 —0.1	7:42 6.6	13:54 0.1	19:57 7.0	S	F	7	7:48 —0.2	7:48 6.4	14:00 0.1	20:12 7.4	C	M	7	8:10 —0.2	8:05 6.3	15:14 0.2	21:32 7.2
	Th	8	8:20 0.0	8:17 6.4	14:25 0.2	20:36 7.0		S	8	8:40 —0.1	8:30 6.2	14:40 0.3	20:55 7.2		Tu	8	9:00 —0.1	8:55 6.2	16:10 0.3	22:25 6.9
	F	9	8:58 0.0	8:55 6.3	15:05 0.4	21:16 6.9		S	9	9:25 0.0	9:18 6.1	15:27 0.5	21:46 7.0		W	9	9:55 0.0	9:50 6.2	17:10 0.5	23:25 6.6
C	S	10	9:42 0.2	9:37 6.1	15:46 0.5	22:05 6.7	C	M	10	10:12 0.2	10:12 6.0	16:20 0.6	22:40 6.7	E	Th	10	10:53 0.2	10:48 6.3	18:16 0.6	
	S	11	10:33 0.4	10:27 6.8	16:36 0.7	23:00 6.6		Tu	11	11:14 0.4	11:12 5.8	17:20 0.7	23:41 6.5		F	11	11:40 6.4	11:35 0.8	19:24 6.5	19:24 0.4
	M	12	11:26 0.6	11:26 5.7	17:38 0.8			W	12	12:15 0.4	12:20 5.9	18:30 0.7			S	12	12:55 6.4	12:50 0.1	20:30 6.7	20:30 0.2
P	Tu	13	6:00 6.4	6:32 0.7	12:35 5.7	18:45 0.8	E	Th	13	6:46 6.3	6:46 0.5	13:28 6.2	19:40 0.6	N	S	13	7:28 6.5	7:28 —0.2	15:02 7.1	21:30 0.0
	W	14	7:05 6.4	7:38 0.6	13:45 5.9	19:55 0.6		F	14	8:15 6.3	8:16 0.3	14:30 6.5	20:48 0.3		M	14	9:05 6.5	9:05 —0.5	15:57 7.5	22:28 —0.3
	Th	15	8:12 6.5	8:42 0.3	14:50 6.3	21:05 0.2		S	15	9:00 6.5	9:14 —0.1	15:26 6.9	21:48 —0.2		Tu	15	10:05 6.6	10:35 —0.7	16:50 7.8	23:20 —0.5
S	F	16	9:17 6.7	9:40 0.0	15:50 6.7	22:05 —0.3	P	S	16	10:00 6.9	10:06 —0.5	16:18 7.5	22:42 —0.7	N	W	16	11:05 6.7	11:24 —0.9	17:40 8.0	
	S	17	10:18 7.1	10:35 —0.5	16:44 7.3	23:00 —0.7		M	17	10:58 7.2	10:58 —0.9	17:10 8.0	23:35 —1.0		Th	17	11:10 —0.6	11:05 6.8	18:16 —0.9	18:26 8.1
	S	18	11:25 7.5	11:25 —0.9	17:32 7.8	23:54 —1.1		Tu	18	11:48 7.3	11:48 —1.2	17:58 8.3			F	18	12:05 —0.6	12:00 6.5	19:12 —0.8	19:12 8.0
N	M	19	6:00 7.8	6:00 —1.2	12:14 8.2		C	W	19	6:25 —1.1	6:25 7.3	12:35 —1.2	18:44 8.4	A	S	19	7:05 —0.5	7:05 6.7	13:46 —0.6	20:00 7.7
	Tu	20	6:42 —1.4	6:48 7.8	12:58 —1.3	19:05 8.4		Th	20	7:12 —1.1	7:12 7.2	13:20 —1.1	19:34 8.3		S	20	8:05 —0.4	8:05 6.5	14:34 —0.2	20:44 7.3
	W	21	7:34 —1.4	7:34 7.7	13:44 —1.3	19:54 8.3		F	21	8:00 —0.9	8:00 7.0	14:06 —0.8	20:20 8.0		M	21	9:05 —0.1	9:05 6.3	15:22 0.2	21:30 6.9
D	Th	22	8:18 —1.2	8:20 7.3	14:32 —1.0	20:42 8.1	N	S	22	8:45 —0.6	8:45 6.6	14:55 —0.4	21:06 7.5	E	Tu	22	9:35 3.56	9:35 6.0	16:12 0.6	22:18 6.5
	F	23	9:08 —0.8	9:10 6.9	15:20 —0.6	21:34 7.6		S	23	9:38 —0.2	9:35 6.3	15:46 0.1	21:56 7.0		W	23	10:35 0.4	10:35 5.8	17:04 1.0	23:07 6.0
	S	24	10:00 —0.3	10:00 6.5	16:10 —0.1	22:25 7.1		M	24	10:36 0.1	10:36 6.0	16:40 0.6	22:50 6.5		Th	24	11:45 0.7	11:45 5.7	17:55 1.3	23:58 5.7
A	S	25	10:57 0.1	10:57 6.1	17:07 0.4	23:20 6.6	D	Tu	25	11:30 0.5	11:30 5.7	17:38 1.0	23:45 6.1	E	F	25	12:32 0.9	12:32 5.6	18:50 1.3	
	M	26	11:58 0.5	11:58 6.7	18:08 0.8			W	26	12:30 0.7	12:30 5.6	18:40 1.2			S	26	7:08 5.5	7:08 0.9	13:22 5.8	19:44 1.3
	Tu	27	6:52 6.2	6:52 0.8	13:05 5.6	19:15 1.0		Th	27	7:08 5.7	7:08 0.9	13:25 5.5	19:40 1.3		S	27	7:58 5.4	7:58 0.8	14:10 6.0	20:35 1.2
A	W	28	7:54 5.9	7:54 0.8	14:10 5.6	20:20 1.1	E	F	28	8:45 5.6	8:45 0.9	14:17 5.7	20:36 1.2	W	M	28	8:45 5.5	8:45 0.7	15:00 6.2	21:26 0.9
	Th	29	8:52 5.8	8:52 0.9	15:06 5.7	21:18 1.0		S	29	8:50 5.6	8:50 0.8	15:04 5.9	21:25 1.0		Tu	29	9:32 5.6	9:32 0.5	15:45 6.6	22:12 0.7
	F	30	9:40 5.8	9:40 0.7	15:50 6.0	22:08 0.8		S	30	9:35 5.7	9:35 0.6	15:46 6.2	22:10 0.8		W	30	10:17 5.8	10:17 —0.2	16:30 7.0	23:00 0.3
							M	31	10:16 5.8	10:16 0.4	16:27 6.5	22:50 0.5								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.							W.	Mo.												
☾	Th	1	4:55	11:08	17:16	23:45				○	S	1	0:10	6:08	12:18	18:32		P	W	1	1:24	7:26	13:40	19:52								
			6.0	0.0	7.8	0.0							—0.4	6.7	—0.6	7.9					—1.2	7.8	—1.2	8.0								
	F	2	5:40	11:50	18:02						M	2	0:58	6:57	13:06	19:22		E	Th	2	2:10	8:15	14:32	20:42								
			6.2	—0.2	7.6								—0.7	7.0	—0.8	8.0					—1.2	7.9	—1.1	7.9								
	S	3	0:30	6:25	12:36	18:50				P	Tu	3	1:45	7:45	14:00	20:10				F	3	2:55	9:05	15:25	21:34							
☾			—0.3	6.4	—0.3	7.8							—0.9	7.2	—0.8	7.9					—1.0	7.8	—1.0	7.5								
	S	4	1:18	7:14	13:25	19:38				W	4	2:34	8:35	14:50	21:00				S	4	3:45	9:55	16:18	22:26								
			—0.5	6.6	—0.4	7.9							—0.9	7.3	—0.7	7.7					—0.8	7.6	—0.6	7.1								
	M	5	2:06	8:00	14:11	20:26				E	Th	5	3:20	9:30	15:40	21:54				S	5	4:35	10:47	17:14	23:20							
			—0.6	6.7	—0.4	7.8							—0.9	7.3	—0.5	7.4					—0.4	7.3	—0.2	6.6								
☾	Tu	6	2:54	8:52	15:06	21:18				F	6	4:10	10:24	16:40	22:50			☾	M	6	5:31	11:46	18:18									
			—0.6	6.7	—0.2	7.5						—0.6	7.2	—0.3	7.1					—0.1	7.0	0.2										
	P	W	7	3:44	9:45	15:55	22:10			S	7	5:08	11:15	17:37	23:45					Tu	7	6:21	6:31	12:50	19:23							
			—0.5	6.7	—0.1	7.2						—0.3	7.1	—0.1	6.6					6.1	0.2	6.7	0.5									
	Th	8	4:36	10:42	16:55	23:08			☾	S	8	5:58	12:12	18:40					N	W	8	7:29	7:35	13:55	20:31							
☾			—0.3	6.7	0.1	6.8						—0.1	7.0	0.2						5.8	0.4	6.5	0.6									
	F	9	5:26	11:40	17:58					M	9	6:45	6:56	13:18	19:48					Th	9	8:26	8:40	14:59	21:34							
			—0.1	6.7	0.2							6.3	0.1	6.8	0.4					5.7	0.5	6.5	0.5									
	S	10	0:10	6:25	12:38	19:02				Tu	10	1:48	7:56	14:17	20:54					F	10	3:39	9:41	15:56	22:28							
			6.5	0.0	6.8	0.3						6.0	0.1	6.8	0.5					5.8	0.3	6.6	0.4									
☾	S	11	1:10	7:23	13:40	20:08				W	11	2:52	9:00	15:18	21:55					S	11	4:34	10:36	16:48	23:14							
			6.4	0.0	6.8	0.3						5.9	0.1	6.9	0.4					6.0	0.2	6.7	0.2									
	M	12	2:14	8:20	14:40	21:10			N	Th	12	3:55	9:56	16:14	22:48					S	12	5:20	11:25	17:35	23:55							
			6.2	—0.1	7.0	0.2						6.0	0.0	7.0	0.8					6.3	0.1	6.8	0.0									
	Tu	13	3:12	9:18	15:38	22:10				F	13	4:50	10:50	17:05	23:36					M	13	6:01	12:09	18:18								
☾			6.2	—0.2	7.2	0.1						6.1	—0.1	7.1	0.1					6.5	0.0	6.8										
	W	14	4:08	10:14	16:30	23:05				S	14	5:38	11:40	17:40			☾		Tu	14	6:33	6:38	12:49	18:55								
			6.2	—0.4	7.4	—0.1						6.2	—0.2	7.2						—0.1	6.6	0.0	6.8									
	Th	15	5:02	11:06	17:22	23:54			☾	S	15	6:20	6:25	12:27	18:38			E		W	15	7:09	7:12	13:25	19:29							
			6.3	—0.5	7.6	—0.2						—0.1	6.4	—0.2	7.2					0.0	6.7	0.0	6.7									
☾	N	F	16	5:50	11:55	18:12				M	16	1:00	7:02	13:10	19:18			A		Th	16	1:41	7:46	13:59	20:01							
			6.4	—0.5	7.6							—0.2	6.5	—0.2	7.1					0.0	6.7	0.1	6.7									
	S	17	0:39	6:38	12:42	18:54				Tu	17	1:40	7:40	13:52	19:56					F	17	2:14	8:19	14:33	20:36							
			—0.3	6.5	—0.5	7.6						—0.2	6.5	0.0	6.9					0.1	6.7	0.2	6.5									
	S	18	1:24	7:22	13:30	19:38				W	18	2:15	8:17	14:32	20:36					S	18	2:46	8:52	15:10	21:11							
☾			—0.3	6.5	—0.3	7.4						—0.1	6.5	0.2	6.7					0.3	6.6	0.3	6.2									
	M	19	2:06	8:04	14:14	20:20			A	Th	19	2:50	8:55	15:05	21:10					S	19	3:20	9:29	15:50	21:49							
			—0.2	6.4	—0.1	7.2			E			0.1	6.4	0.4	6.4					0.5	6.5	0.4	6.0									
	Tu	20	2:45	8:46	14:56	21:04				F	20	3:26	9:32	15:42	21:50					M	20	3:58	10:10	16:35	22:31							
			—0.1	6.3	0.8	6.8						0.3	6.3	0.6	6.2					0.7	6.4	0.6	5.7									
☾	W	21	3:25	9:30	15:40	21:45				S	21	4:00	10:10	16:26	22:26					Tu	21	4:41	11:00	17:28	23:23							
			0.0	6.1	0.6	6.5						0.5	6.3	0.7	6.0					0.9	6.3	0.3	5.5									
	Th	22	4:05	10:12	16:22	22:27				S	22	4:38	10:50	17:09	23:10			☾		W	22	5:34	11:55	18:28								
			0.3	6.0	0.9	6.1						0.7	6.2	0.9	5.7					1.0	6.2	0.9										
	A	F	23	4:45	10:57	17:06	23:10			☾	M	23	5:24	11:40	18:02					S	Th	23	6:25	6:37	12:59	19:32						
☾			0.6	5.9	1.1	5.8						0.9	6.1	1.0						5.4	1.0	6.2	0.8									
	S	24	5:28	11:40	17:55	23:58				Tu	24	6:00	6:15	12:32	19:00					F	24	1:34	7:45	14:04	20:39							
			0.3	5.9	1.2	5.6						5.5	1.0	6.1	1.0					5.5	0.8	6.4	0.6									
	S	25	6:15	12:28	18:46					W	25	1:00	7:12	13:30	20:04					S	25	2:40	8:51	15:09	21:36							
			0.9	5.9	1.2							5.4	1.0	6.2	0.9					5.8	0.5	6.7	0.2									
☾	M	26	0:48	7:02	13:18	19:44				Th	26	2:00	8:14	14:34	21:08					S	26	3:41	9:54	16:07	22:31							
			5.4	0.9	6.0	1.2						5.4	0.8	6.4	0.7					6.3	0.0	7.1	—0.3									
	Tu	27	1:42	7:55	14:10	20:40			S	F	27	3:04	9:16	15:34	22:05					M	27	4:37	10:50	17:08	23:22							
			5.4	0.9	6.2	1.0						5.7	0.4	6.8	0.3					6.9	—0.5	7.4	—0.7									
	W	28	2:36	8:52	15:06	21:38				S	28	4:04	10:14	16:30	23:00					Tu	28	5:29	11:43	17:55								
☾			5.5	0.6	6.5	0.7						6.1	0.0	7.2	—0.1					7.4	—1.0	7.8										
	Th	29	3:24	9:44	16:00	22:30				S	29	4:58	11:08	17:24	23:48			☾		W	29	6:10	6:18	12:34	18:45							
			5.7	0.4	6.9	0.3						6.6	—0.5	7.6	—0.6					—1.0	7.8	—1.3	8.0									
	F	30	4:26	10:38	16:53	23:22			○	M	30	5:50	12:00	18:14					Th	30	6:58	7:05	13:23	19:32								
			6.0	0.0	7.3	0.0						7.0	—0.9	7.9						—1.3	8.1	—1.4	8.0									
☾	S	31	5:18	11:28	17:43	</																										

OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N	F	1	1:45 -1.3	7:51 8.2	14:14 -1.4	20:20 7.7	N	M	1	2:56 -0.7	9:08 7.9	15:36 -0.6	21:39 6.7	N	W	1	3:26 -0.2	9:39 7.4	16:06 -0.2	22:10 6.2
	S	2	2:31 -1.1	8:39 8.1	15:04 -1.1	21:09 7.4		Tu	2	3:48 -0.3	10:00 7.4	16:29 -0.2	22:34 6.3		Th	2	4:20 0.3	10:30 6.9	16:59 0.1	23:08 6.0
	S	3	3:19 -0.8	9:30 7.9	15:56 -0.7	22:01 6.9		W	3	4:44 0.2	10:56 6.9	17:27 0.2	23:35 5.9		F	3	5:18 0.7	11:25 6.4	17:54 0.4	23:35 5.9
	M	4	4:10 -0.4	10:24 7.4	16:51 -0.2	22:56 6.4		Th	4	5:45 0.6	11:55 6.4	18:29 0.5	24:00 5.9		S	4	6:08 5.8	6:19 1.0	12:24 6.0	18:50 0.7
	Tu	5	5:06 0.0	11:21 7.0	17:53 0.2	23:59 6.0		F	5	6:41 5.7	6:51 0.9	13:01 6.1	19:29 0.6		S	5	1:08 5.7	7:20 1.2	13:24 5.8	19:43 0.8
	W	6	6:09 0.5	12:24 6.5	18:58 0.6	24:59 5.9		S	6	1:48 5.7	7:58 1.0	14:04 5.9	20:29 0.7		M	6	2:00 5.7	8:19 1.1	14:21 5.6	20:34 0.7
	Th	7	1:08 5.7	7:15 0.7	13:30 6.2	20:05 0.7		S	7	2:47 5.8	8:59 0.9	15:05 5.9	21:21 0.7		Tu	7	2:49 5.9	9:10 1.0	15:10 5.6	21:20 0.6
	F	8	2:16 5.7	8:21 0.7	14:34 6.1	21:05 0.6		M	8	3:35 6.0	9:50 0.8	15:55 6.0	22:08 0.5		W	8	3:21 6.2	9:57 0.9	15:56 6.7	22:01 0.5
	S	9	3:19 5.8	9:25 0.7	15:35 6.2	21:59 0.4		Tu	9	4:19 6.2	10:35 0.6	16:38 6.1	22:46 0.3		Th	9	4:13 6.4	10:39 0.7	16:35 5.8	22:43 0.3
	S	10	4:11 6.1	10:20 0.5	16:29 6.3	22:46 0.4		W	10	4:56 6.5	11:15 0.3	17:15 6.2	23:23 0.2		F	10	4:51 6.7	11:19 0.4	17:14 5.9	23:21 0.2
	M	11	4:55 6.3	11:05 0.4	17:14 6.4	23:25 0.2		Th	11	5:31 6.7	11:51 0.2	17:50 6.2	23:59 0.1		S	11	5:30 7.0	11:52 0.2	17:51 6.0	23:59 0.1
E	Tu	12	5:34 6.5	11:46 0.3	17:51 6.4	24:59 5.9	E	F	12	6:04 6.9	12:26 0.1	18:23 6.2	24:59 5.9	E	S	12	6:01 0.1	6:09 7.2	12:37 6.0	18:30 6.1
	W	13	6:01 0.1	6:09 6.6	12:21 0.1	18:25 6.6		S	13	6:33 0.1	6:39 7.1	13:02 0.0	18:58 6.2		M	13	6:40 0.1	6:50 7.4	13:19 -0.1	19:10 6.2
	Th	14	6:35 0.1	6:41 6.7	12:55 0.0	18:57 6.5		S	14	1:08 0.2	7:14 7.2	13:40 0.0	19:33 6.2		Tu	14	1:20 0.1	7:34 7.5	14:01 -0.2	19:38 6.2
	F	15	1:08 0.1	7:11 6.8	13:30 0.0	19:29 6.4		M	15	1:41 0.3	7:53 7.2	14:20 0.0	20:11 6.1		W	15	2:03 0.2	8:19 7.4	14:48 -0.2	20:40 6.2
	S	16	1:40 0.2	7:44 6.9	14:04 0.0	20:01 6.3		Tu	16	2:20 0.4	8:25 7.2	15:05 0.0	20:56 6.0		Th	16	2:50 0.3	9:07 7.2	15:36 -0.1	21:31 6.2
	S	17	2:11 0.3	8:19 6.9	14:43 0.1	20:39 6.1		W	17	3:03 0.6	9:21 7.0	15:53 0.2	21:46 5.9		F	17	3:41 0.4	9:58 7.0	16:27 0.0	22:28 6.2
	M	18	2:46 0.5	8:59 6.8	15:24 0.2	21:18 5.9		Th	18	3:53 0.7	10:12 6.7	16:45 0.3	22:41 5.8		S	18	4:37 0.5	10:53 6.7	17:21 0.2	23:29 6.2
	Tu	19	3:25 0.7	9:41 6.7	16:11 0.4	22:04 5.7		F	19	4:50 0.9	11:10 6.5	17:44 0.4	23:46 5.8		S	19	5:40 0.6	11:54 6.4	18:16 0.3	24:59 5.9
	W	20	4:11 0.9	10:31 6.5	17:05 0.6	22:58 5.6		S	20	5:55 0.9	12:11 6.3	18:42 0.5	24:59 5.9		M	20	6:29 6.4	6:46 6.6	12:57 6.3	19:15 6.2
	Th	21	5:07 1.0	11:29 6.3	18:04 0.7	24:59 5.9		S	21	6:53 6.0	7:04 6.8	13:19 0.3	19:41 0.4		Tu	21	1:29 6.6	7:51 6.3	14:01 6.4	20:14 6.0
	P	F	22	6:02 5.5	6:13 1.0	12:32 6.2		19:06 0.6	P	M	22	1:56 6.4	8:12 6.5		14:25 6.4	20:42 0.0	P	W	22	2:29 6.9	8:56 6.1	15:01 6.4	21:11 -0.3
S		23	1:13 5.7	7:24 0.8	13:40 6.3	20:11 0.5	Tu	23		2:54 6.8	9:16 6.0	15:26 6.7	21:37 -0.4	Th	23	3:26 7.3		9:56 -0.1	15:57 6.5	22:05 -0.6
S		24	2:20 6.1	8:31 0.5	14:45 6.5	21:10 0.2	W	24		3:50 7.3	10:14 -0.5	16:20 7.0	22:30 -0.7	F	24	4:21 7.7		10:51 -0.4	16:50 6.7	22:58 -0.8
M		25	3:20 6.5	9:35 0.0	15:47 6.8	22:05 -0.2	Th	25		4:40 7.8	11:07 -0.8	17:10 7.2	23:20 -1.0	S	25	5:12 8.0		11:44 -0.6	17:41 6.8	23:49 -0.9
Tu		26	4:15 7.1	10:32 -0.5	16:44 7.2	22:56 -0.7	F	26		5:30 8.2	12:00 -1.0	18:00 7.3	24:59 5.9	S	26	6:03 8.1		12:33 -0.7	18:30 6.8	25:59 5.9
W		27	5:05 7.7	11:26 -0.9	17:34 7.6	23:46 -1.1	S	27		6:09 -1.2	6:20 8.4	12:49 -1.1	18:48 7.2	M	27	6:39 -0.9		6:51 8.1	13:21 -0.7	19:19 6.8
Th		28	5:54 8.1	12:15 -1.3	18:21 7.7	24:59 5.9	S	28		6:58 -1.2	7:08 8.4	13:36 -1.0	19:36 7.1	Tu	28	1:26 -0.8		7:39 8.0	14:07 -0.6	20:06 6.7
F		29	6:33 -1.3	6:40 8.4	13:05 -1.4	19:09 7.4	M	29		1:45 -1.0	7:57 8.2	14:26 -0.8	20:25 6.9	W	29	2:12 -0.5		8:25 7.7	14:54 -0.4	20:56 6.5
S		30	1:19 -1.3	7:28 8.5	13:54 -1.3	19:58 7.4	Tu	30		2:34 -0.6	8:45 7.8	15:15 -0.5	21:16 6.5	Th	30	3:06 -0.1		9:12 7.2	15:40 -0.2	21:45 6.3
S		31	2:07 -1.1	8:16 8.3	14:44 -1.0	20:46 7.1								F	31	3:55 0.3		10:00 6.8	16:27 0.1	22:35 6.1

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	3:00 6.2	9:25 0.3	15:30 5.5	21:34 -0.2					M	1	4:31 6.2	11:05 0.5	17:06 5.2	23:00 0.0					N	M	1	3:08 5.8	9:42 0.7	15:47 5.0	21:43 0.4					
	S	2	3:56 6.3	10:27 0.2	16:30 5.5	22:29 -0.3					N	Tu	2	5:25 6.3	11:58 0.4	17:58 5.3	23:53 -0.1					Tu	2	4:08 5.8	10:42 0.6	16:46 5.1	22:42 0.3					
	S	3	4:53 6.5	11:24 0.1	17:24 5.5	23:20 -0.4						W	3	6:14 6.3	12:43 0.2	18:47 5.4					W	3	5:03 5.9	11:33 0.5	17:40 5.2	23:36 0.2						
	M	4	5:45 6.6	12:15 0.0	18:15 5.5							Th	4	0:42 -0.1	6:58 6.3	13:25 0.1	19:28 5.4					Th	4	5:52 6.0	12:15 0.3	18:25 5.4						
	Tu	5	0:10 -0.4	6:31 6.7	13:02 0.0	19:01 5.5					○	F	5	1:27 0.0	7:38 6.3	14:04 0.1	20:05 5.4					F	5	0:25 0.1	6:36 6.0	12:58 0.1	19:05 5.5					
	W	6	0:59 -0.4	7:16 6.7	13:45 0.0	19:45 5.5						S	6	2:07 0.1	8:17 6.1	14:37 0.1	20:42 5.4					○	S	6	1:07 0.1	7:15 6.0	13:33 0.1	19:40 5.6				
	Th	7	1:44 -0.2	7:59 6.6	14:26 0.0	20:26 5.4					A	S	7	2:43 0.3	8:50 6.0	15:10 0.2	21:15 5.4					A	S	7	1:45 0.1	7:52 5.9	14:05 0.0	20:12 5.7				
	F	8	2:26 0.0	8:39 6.3	15:04 0.1	21:06 5.3						M	8	3:20 0.5	9:23 5.8	15:43 0.2	21:47 5.4					E	M	8	2:20 0.2	8:24 5.8	14:37 0.1	20:40 5.8				
	S	9	3:08 0.3	9:17 6.1	15:40 0.2	21:43 5.2					E	Tu	9	3:55 0.6	9:57 5.6	16:15 0.4	22:22 5.5					Tu	9	2:52 0.2	8:55 5.8	15:10 0.2	21:12 5.8					
	A C	S	10	3:45 0.6	9:58 5.8	16:17 0.3	22:22 5.1						W	10	4:30 0.6	10:34 5.5	16:49 0.5	23:03 5.6					W	10	3:25 0.3	9:28 5.7	15:38 0.3	21:45 5.8				
M		11	4:24 0.8	10:32 5.6	16:56 0.4	23:00 5.1						Th	11	5:12 0.7	11:15 5.3	17:31 0.6	23:46 5.6					Th	11	4:01 0.3	10:02 5.5	16:12 0.4	22:23 5.8					
Tu		12	5:07 0.9	11:10 5.3	17:32 0.6	23:42 5.2						F	12	6:00 0.7	12:01 5.1	18:17 0.6					F	12	4:42 0.4	10:42 5.3	16:52 0.5	23:10 5.8						
W		13	5:52 1.0	11:52 5.2	18:17 0.7					○	S	13	0:38 5.6	6:58 0.8	12:56 5.0	19:12 0.6					S	13	5:30 0.5	11:26 5.1	17:38 0.6							
Th		14	0:32 5.3	6:40 1.0	12:45 5.1	19:05 0.7						S	14	1:38 5.6	8:00 0.7	14:00 4.9	20:13 0.5				○	S	14	0:05 5.7	6:27 0.7	12:22 5.0	18:35 0.7					
F		15	1:25 5.4	7:37 0.9	13:41 5.0	19:57 0.6						M	15	2:42 5.8	9:07 0.7	15:09 4.9	21:17 0.3					M	15	1:06 5.7	7:32 0.7	13:28 4.8	19:40 0.6					
S		16	2:21 5.6	8:40 0.8	14:42 5.0	20:53 0.4					S	Tu	16	3:45 6.1	10:12 0.4	16:12 5.2	22:20 0.0					S	Tu	16	2:12 5.8	8:40 0.7	14:43 4.9	20:53 0.4				
S		17	3:18 5.9	9:40 0.6	15:42 5.1	21:51 0.2						W	17	4:47 6.4	11:13 0.1	17:14 5.5	23:20 -0.4					W	17	3:20 5.9	9:48 0.4	15:52 5.2	22:00 0.1					
M		18	4:15 6.2	10:40 0.3	16:38 5.2	22:48 -0.1						Th	18	5:43 6.7	12:07 -0.3	18:10 5.9					Th	18	4:23 6.2	10:48 0.0	16:55 5.7	23:02 -0.3						
S ●		Tu	19	5:10 6.6	11:35 0.0	17:34 5.5	23:40 -0.4						F	19	0:16 -0.7	6:35 7.0	12:57 -0.6	19:01 6.2					F	19	5:22 6.5	11:43 -0.4	17:52 6.2					
	W	20	6:02 6.9	12:29 -0.2	18:27 5.7					●	S	20	1:08 -0.9	7:25 7.1	13:46 -0.9	19:51 6.5					S	20	0:00 -0.7	6:16 6.8	12:33 -0.8	18:42 6.6						
	Th	21	0:33 -0.6	6:57 7.1	13:18 -0.5	19:17 5.9					P	S	21	2:00 -1.0	8:15 7.1	14:32 -1.0	20:39 6.7				P	S	21	0:53 -1.0	7:07 7.0	13:21 -1.0	19:30 7.0					
	F	22	1:23 -0.7	7:43 7.2	14:07 -0.6	20:07 6.1					E	M	22	2:50 -1.0	9:05 7.0	15:20 -1.0	21:27 6.8				E	M	22	1:45 -1.1	7:55 7.1	14:09 -1.1	20:15 7.1					
	S	23	2:15 -0.8	8:32 7.1	14:55 -0.7	20:58 6.2						Tu	23	4:42 -0.8	9:52 6.8	16:05 -0.8	22:15 6.8					Tu	23	2:33 -1.1	8:45 7.0	14:54 -1.0	21:02 7.1					
	S	24	3:05 -0.7	9:21 6.9	15:42 -0.7	21:49 6.3						W	24	4:32 -0.6	10:43 6.4	16:53 -0.5	23:07 6.5					W	24	3:22 -1.0	9:32 6.7	15:40 -0.8	21:50 6.9					
	M	25	3:58 -0.5	10:12 6.6	16:30 -0.6	22:39 6.3						Th	25	5:27 -0.2	11:36 6.0	17:43 -0.2					Th	25	4:12 -0.7	10:18 6.2	16:34 -0.5	22:42 6.6						
	Tu	26	4:51 -0.3	11:03 6.3	17:20 -0.3	23:32 6.2					D	F	26	0:02 6.3	6:23 0.2	12:32 5.5	18:38 0.1					F	26	5:02 -0.2	11:10 5.8	17:15 -0.2	23:35 6.3					
	D	W	27	5:48 -0.1	11:58 6.0	18:12 -0.1							S	27	1:02 6.1	7:27 0.5	13:34 5.2	19:37 0.3					S	27	5:58 0.2	12:05 5.4	18:09 0.2					
		Th	28	0:30 6.2	6:49 0.2	12:59 5.6	19:10 0.0						S	28	2:08 5.9	8:35 0.7	14:40 5.0	20:40 0.4				D	S	28	0:32 5.9	6:58 0.6	13:06 5.0	19:10 0.5				
F		29	1:30 6.1	7:53 0.4	14:03 5.4	20:07 0.1															M	29	1:33 5.7	8:03 0.8	14:13 4.8	20:15 0.7						
S		30	2:33 6.1	9:02 0.5	15:07 5.2	21:07 0.1															Tu	30	2:38 5.5	9:07 0.8	15:22 4.9	21:20 0.7						
S		31	3:33 6.1	10:07 0.5	16:08 5.2	22:07 0.0															W	31	3:28 5.5	10:08 0.7	16:22 5.0	22:21 0.6						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.								W.	Mo.											
A	Th	1	4:35 5.5	11:00 0.5	17:12 5.3	23:14 0.5					S	1	4:47 5.4	11:00 0.4	17:13 5.6	23:27 0.5					Tu	1	5:33 5.4	11:37 0.1	17:53 6.2							
	F	2	5:25 5.6	11:45 0.3	17:56 5.5					E	S	2	5:33 5.5	11:42 0.2	17:51 5.8					W	2	6:13 0.1	6:14 5.4	12:18 -0.1	18:32 6.5							
	S	3	6:00 0.3	6:07 5.7	12:24 0.2	18:32 5.7				M	3	6:07 0.2	6:13 5.6	12:20 0.1	18:27 6.0					Th	3	6:56 0.0	6:54 5.5	12:59 -0.2	19:13 6.7							
	S	4	6:42 0.2	6:47 5.8	13:00 0.1	19:05 5.8				Tu	4	6:45 0.0	6:50 5.7	12:55 0.0	19:02 6.2					F	4	1:37 -0.1	7:34 5.5	13:38 -0.1	19:57 6.8							
	M	5	1:18 0.1	7:22 5.9	13:33 0.1	19:36 5.9				O	W	5	1:22 0.1	7:24 5.7	13:30 0.0	19:38 6.4				S	5	2:20 -0.2	8:16 5.5	14:20 -0.1	20:40 6.7							
E	Tu	6	1:51 0.0	7:56 5.8	14:03 0.1	20:07 6.0				Th	6	2:00 -0.1	8:00 5.6	14:03 0.0	20:16 6.5				S	6	3:06 -0.2	9:00 5.4	15:05 0.0	21:27 6.6								
	W	7	2:24 0.0	8:27 5.7	14:35 0.1	20:40 6.1				F	7	2:38 -0.1	8:35 5.5	14:38 0.1	20:57 6.5				M	7	3:53 -0.1	9:47 5.4	15:52 0.2	22:17 6.4								
	Th	8	3:00 0.0	9:00 5.6	15:07 0.2	21:17 6.2				S	8	3:20 0.0	9:15 5.4	15:18 0.3	21:40 6.4				Tu	8	4:42 0.0	10:42 5.3	16:46 0.4	23:10 6.1								
	F	9	3:38 0.1	9:35 5.4	15:40 0.3	21:58 6.1				S	S	9	4:05 0.1	9:58 5.2	16:02 0.4	22:28 6.2				W	9	5:35 0.1	11:40 5.3	17:47 0.5								
	S	10	4:22 0.2	10:14 5.2	16:22 0.5	22:46 6.0				M	10	4:55 0.2	10:48 5.1	16:53 0.6	23:24 6.0				Th	10	6:07 5.8	6:32 0.2	12:40 5.4	18:53 0.5								
C	S	11	5:10 0.4	11:02 5.1	17:10 0.6	23:40 5.9				Tu	11	5:50 0.4	11:50 5.0	17:55 0.7					F	11	1:08 5.6	7:28 0.3	13:44 5.6	20:02 0.4								
	M	12	6:07 0.6	12:00 4.9	18:10 0.7				C	W	12	6:24 5.8	6:51 0.4	12:57 5.1	19:07 0.7				E	S	12	2:13 5.6	8:28 0.1	14:48 5.9	21:08 0.2							
	Tu	13	6:42 5.7	7:10 0.7	13:10 4.9	19:20 0.7				Th	13	1:29 5.6	7:55 0.4	14:07 5.3	20:17 0.5				S	13	3:20 5.6	9:28 -0.1	15:48 6.2	22:12 0.0								
	W	14	1:49 5.7	8:17 0.6	14:24 5.0	20:34 0.5				F	14	2:35 5.7	8:56 0.3	15:12 5.7	21:27 0.3				M	14	4:20 5.7	10:24 -0.4	16:44 6.6	23:12 -0.2								
	Th	15	2:57 5.8	9:24 0.3	15:33 5.4	21:43 0.2				S	15	3:40 5.8	9:56 0.0	16:10 6.1	22:30 0.1				Tu	15	5:15 6:18	11:17 -0.6	17:38 6.9									
P	F	16	4:02 6.0	10:24 0.0	16:33 5.9	22:47 -0.2			E	S	16	4:42 6.1	10:52 -0.4	17:05 6.5	23:28 -0.5				W	16	6:05 -0.8	6:06 5.9	12:07 -0.8	18:27 7.1								
	S	17	5:02 6.3	11:17 -0.3	17:27 6.4	23:44 -0.6			M	17	5:35 6.2	11:43 -0.8	17:57 7.0					Th	17	6:55 -0.4	6:55 5.9	12:55 -0.8	19:13 7.1									
	S	18	5:55 6.6	12:09 -0.7	18:17 6.8				Tu	18	6:20 -0.8	6:26 6.3	12:30 -1.0	18:45 7.2				N	F	18	1:42 -0.4	7:40 5.8	13:44 -0.7	20:00 7.0								
	M	19	6:37 -0.9	6:47 6.8	12:57 -1.0	19:05 7.2			W	19	1:10 -0.8	7:12 6.3	13:17 -1.0	19:32 7.3				S	19	2:27 -0.3	8:26 5.7	14:29 -0.4	20:45 6.7									
	Tu	20	1:27 -1.2	7:35 6.8	13:43 -1.1	19:52 7.3			Th	20	1:58 -0.8	7:58 6.2	14:02 -0.9	20:18 7.2				S	20	3:12 -0.2	9:12 5.5	15:13 -0.1	21:28 6.4									
N	W	21	2:15 -1.1	8:21 6.6	14:28 -1.0	20:38 7.3			F	21	2:45 -0.6	8:44 6.0	14:48 -0.6	21:05 7.0				M	21	3:53 0.0	9:58 5.3	16:00 0.3	22:13 6.1									
	Th	22	3:02 -0.9	9:06 6.3	15:12 -0.8	21:27 7.0		N	S	22	3:30 -0.3	9:31 5.7	15:35 -0.2	21:52 6.6				Tu	22	4:37 0.2	10:44 5.2	16:47 0.6	22:55 5.7									
	F	23	3:50 -0.5	9:54 6.0	15:58 -0.4	22:15 6.7			S	23	4:17 0.0	10:20 5.4	16:22 0.2	22:39 6.2				W	23	5:20 0.4	11:30 5.0	17:35 0.9	23:40 5.4									
	S	24	4:40 -0.1	10:43 5.6	16:47 0.0	23:07 6.3			M	24	5:05 0.2	11:12 5.1	17:15 0.6	23:29 5.8				Th	24	6:05 0.6	12:16 5.0	18:26 1.1										
	S	25	5:32 0.2	11:38 5.2	17:42 0.4				Tu	25	5:55 0.5	12:07 5.0	18:10 0.9					A	F	25	6:27 5.2	7:51 0.7	13:06 5.1	19:17 1.2								
D	M	26	6:00 5.8	6:27 0.6	12:38 5.0	18:41 0.7		D	W	26	6:21 5.4	6:48 0.7	13:03 4.9	19:10 1.1				E	S	26	1:18 5.0	7:40 0.7	13:57 5.2	20:12 1.1								
	Tu	27	1:00 5.5	7:27 0.7	13:43 4.8	19:45 0.9		Th	27	1:16 5.2	7:41 0.8	13:58 4.9	20:10 1.1				S	27	2:14 4.9	8:30 0.6	14:50 5.4	21:08 1.0										
	W	28	2:00 5.3	8:27 0.8	14:45 4.9	20:51 0.9		A	F	28	2:13 5.1	8:33 0.8	14:52 5.1	21:07 1.1				M	28	3:10 4.9	9:18 0.5	15:40 5.6	22:13 0.7									
	Th	29	3:00 5.2	9:25 0.7	15:42 5.0	21:50 0.8		E	S	29	3:10 5.1	9:24 0.7	15:42 5.3	21:58 0.8				Tu	29	4:04 5.0	10:10 0.3	16:30 6.0	22:53 0.5									
	F	30	3:58 5.3	10:16 0.7	16:30 5.3	22:42 0.7			S	30	4:03 5.2	10:10 0.5	16:28 5.6	22:47 0.6				M	30	4:53 5.1	10:59 0.1	17:18 6.3	23:42 0.2									
								M	31	4:52 5.3	10:57 0.2	17:10 5.9	23:31 0.3																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S	Th	1	5:41 5.3	11:46 -0.1	18:05 6.6					○	S	1	0:56 -0.3	6:55 5.8	13:02 -0.6	19:20 7.0	P	W	1	2:08 -0.9	8:13 6.8	14:26 -1.0	20:39 7.0									
	F	2	0:30 0.0	6:27 5.4	12:33 -0.2	18:52 6.8					M	2	1:43 -0.5	7:45 6.0	13:51 -0.7	20:09 7.0	E	Th	2	2:51 -1.0	9:00 6.9	15:15 -0.9	21:26 6.9									
	S	3	1:17 -0.2	7:13 5.6	13:18 -0.3	19:38 6.9				P	Tu	3	2:30 -0.6	8:32 6.2	14:41 -0.7	20:58 6.9		F	3	3:39 -0.8	9:47 6.8	16:05 -0.8	22:16 6.5									
	S	4	2:03 -0.3	8:00 5.6	14:05 -0.4	20:25 6.9				W	4	3:15 -0.7	9:21 6.3	15:31 -0.6	21:45 6.7		S	4	4:26 -0.6	10:38 6.7	16:56 -0.4	23:07 6.1										
	M	5	2:48 -0.4	8:47 5.7	14:54 -0.3	21:14 6.8				E	Th	5	4:02 -0.6	10:10 6.4	16:21 -0.4	22:35 6.4		S	5	5:14 -0.4	11:32 6.5	17:53 0.0	...									
P	Tu	6	3:35 -0.3	9:37 5.7	15:44 -0.2	22:02 6.6				F	6	4:50 -0.4	11:01 6.2	17:16 -0.2	23:28 6.1	☾	M	6	0:01 5.6	6:08 0.0	12:30 6.2	18:55 0.4										
	W	7	4:23 -0.3	10:30 5.8	16:37 0.0	22:53 6.3				S	7	5:40 -0.2	11:57 6.3	18:15 0.0	...	N	Tu	7	1:01 5.3	7:08 0.2	13:32 6.0	20:01 0.6										
	Th	8	5:14 -0.2	11:24 5.8	17:34 0.2	23:48 6.0				☾	S	8	0:25 5.7	6:35 -0.1	12:56 6.2	19:19 0.3		W	8	2:10 5.0	8:10 0.3	14:38 5.8	21:12 0.7									
	F	9	6:07 0.0	12:20 5.9	18:35 0.3	...				M	9	1:28 5.4	7:33 0.0	13:59 6.1	20:26 0.5		Th	9	3:18 5.0	9:16 0.4	15:41 5.8	22:15 0.6										
	S	10	0:47 5.7	7:02 0.1	13:21 6.0	19:40 0.3				Tu	10	2:31 5.2	8:34 0.1	15:01 6.1	21:34 0.6		F	10	4:21 5.1	10:19 0.3	16:40 5.9	23:10 0.4										
E	S	11	1:52 5.5	8:02 0.0	14:24 6.1	20:48 0.4				W	11	3:38 5.1	9:36 0.1	16:04 6.2	22:36 0.5		S	11	5:19 5.3	11:16 0.1	17:34 6.0	23:58 0.2										
	M	12	2:57 5.4	9:01 -0.1	15:25 6.2	21:54 0.3				N	Th	12	4:39 5.2	10:35 0.0	17:00 6.3	23:33 0.3		S	12	6:06 5.5	12:09 0.0	18:20 6.0	...									
	Tu	13	3:57 5.4	9:58 -0.2	16:22 6.4	22:55 0.2				F	13	5:35 5.3	11:31 -0.1	17:52 6.4	...	●	M	13	0:40 0.0	6:49 5.7	12:53 0.0	19:01 6.1										
	W	14	4:56 5.5	10:54 -0.3	17:18 6.6	23:51 0.1				S	14	0:23 0.2	6:26 5.5	12:23 -0.2	18:41 6.4		Tu	14	1:19 -0.1	7:26 5.8	13:33 0.0	19:39 6.0										
	Th	15	5:50 5.5	11:47 -0.4	18:10 6.7	...				●	S	15	1:07 0.0	7:11 5.6	13:10 -0.2	19:24 6.4	E	W	15	1:52 0.0	8:00 5.9	14:10 0.1	20:14 5.9									
N	F	16	0:40 0.0	6:40 5.6	12:37 -0.5	18:57 6.8				M	16	1:46 0.0	7:51 5.6	13:54 -0.1	20:03 6.2	A	Th	16	2:26 0.1	8:30 5.9	14:41 0.1	20:45 5.8										
	S	17	1:27 -0.1	7:27 5.6	13:28 -0.4	19:42 6.7				Tu	17	2:24 0.0	8:29 5.6	14:34 0.1	20:40 6.1		F	17	2:55 0.2	9:00 5.9	15:12 0.2	21:18 5.6										
	S	18	2:09 -0.1	8:10 5.6	14:11 -0.2	20:25 6.5				W	18	2:56 0.0	9:05 5.6	15:09 0.3	21:15 5.9		S	18	3:25 0.3	9:31 5.8	15:48 0.3	21:48 5.4										
	M	19	2:50 0.0	8:51 5.5	14:54 0.0	21:05 6.3				A	Th	19	3:29 0.1	9:37 5.6	15:45 0.4	21:49 5.6		S	19	3:56 0.4	10:06 5.8	16:25 0.4	22:22 5.3									
	Tu	20	3:26 0.1	9:33 5.4	15:36 0.3	21:42 6.0				E	F	20	4:00 0.4	10:09 5.6	16:20 0.6	22:22 5.5		M	20	4:31 0.6	10:49 5.7	17:09 0.5	23:04 5.1									
A	W	21	4:04 0.2	10:11 5.3	16:15 0.6	22:20 5.7				S	21	4:35 0.4	10:45 5.6	16:57 0.6	22:59 5.8		Tu	21	5:15 0.7	11:39 5.7	18:01 0.7	23:54 4.9										
	Th	22	4:41 0.3	10:49 5.3	16:56 0.8	23:00 5.4				S	22	5:12 0.6	11:28 5.5	17:41 0.7	23:40 5.1	D	W	22	6:05 0.8	12:37 5.6	19:01 0.7	...										
	F	23	5:19 0.5	11:30 5.3	17:39 0.9	23:40 5.2				D	M	23	5:55 0.7	12:16 5.5	18:33 0.8	...	S	Th	23	0:58 4.8	7:10 0.8	13:41 5.6	20:09 0.7									
	S	24	6:00 0.6	12:14 5.3	18:24 0.9	...				Tu	24	0:30 4.9	6:46 0.7	13:12 5.5	19:33 0.9		F	24	2:10 4.8	8:20 0.6	14:49 5.7	21:16 0.6										
	S	25	0:27 5.0	6:46 0.7	13:04 5.4	19:18 1.0				W	25	1:30 4.8	7:45 0.7	14:15 5.6	20:39 0.8		S	25	3:21 5.1	9:31 0.8	15:54 6.0	22:18 0.2										
D	M	26	1:19 4.9	7:37 0.7	13:58 5.5	20:15 0.9				Th	26	2:39 4.8	8:50 0.6	15:19 5.8	21:44 0.6		S	26	4:26 5.5	10:34 -0.1	16:53 6.3	23:15 -0.2										
	Tu	27	2:17 4.8	8:31 0.6	14:54 5.6	21:17 0.8				S	F	27	3:46 5.0	9:54 0.3	16:19 6.1	22:45 0.3		M	27	5:22 6.0	11:35 -0.5	17:50 6.6	...									
	W	28	3:17 4.8	9:26 0.4	15:51 5.9	22:16 0.6				S	28	4:48 5.3	10:55 -0.1	17:17 6.5	23:41 -0.1		Tu	28	0:06 -0.6	6:14 6.5	12:28 -0.8	18:40 6.9										
	Th	29	4:16 5.0	10:24 0.1	16:47 6.3	23:13 0.3				S	29	5:45 5.7	11:51 -0.5	18:11 6.8	...	☾	W	29	0:56 -0.9	7:01 7.0	13:19 -1.1	19:30 7.1										
	F	30	5:11 5.2	11:19 -0.1	17:40 6.6	...				○	M	30	0:32 -0.5	6:37 6.1	12:45 -0.8	19:01 7.0		Th	30	1:43 -1.1	7:50 7.2	14:08 -1.2	20:19 7.0									
S	S	31	0:07 0.0	6:05 5.5	12:11 -0.4	18:31 6.9				Tu	31	1:20 -0.7	7:26 6.5	13:36 -0.9	19:50 7.1																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian w.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	2:29 -1.1	8:36 7.2	14:56 -1.1	21:06 6.7	N	M	1	3:36 -0.6	9:53 7.0	16:16 -0.4	22:20 5.8	W	1	4:03 -0.1	10:20 6.5	16:45 0.0	22:52 5.4													
	S	2	3:14 -0.9	9:25 7.1	15:45 -0.8	21:54 6.4		Tu	2	4:25 -0.2	10:44 6.6	17:10 0.0	23:15 5.4		Th	2	4:56 0.8	11:11 6.1	17:35 0.2	23:48 5.2												
	S	3	4:00 -0.7	10:15 6.9	16:36 -0.4	22:44 5.9		W	3	5:18 0.2	11:39 6.1	18:04 0.3			F	3	5:51 0.6	12:04 5.7	18:28 0.4													
	M	4	4:48 -0.3	11:08 6.6	17:31 0.0	23:38 5.5		Th	4	0:15 5.2	6:18 0.6	12:36 5.7	19:04 0.5		S	4	0:44 5.1	6:51 0.9	12:59 5.4	19:21 0.6												
	Tu	5	5:42 0.1	12:05 6.2	18:30 0.4			F	5	1:20 5.0	7:22 0.8	13:39 5.4	20:04 0.6		S	5	1:39 5.1	7:50 1.0	13:55 5.2	20:15 0.7												
	W	6	0:39 5.2	6:41 0.4	13:05 5.8	19:35 0.6		S	6	2:21 5.0	8:30 0.8	14:29 5.3	21:02 0.6		M	6	2:38 5.2	8:49 1.0	14:51 5.1	21:06 0.6												
	Th	7	1:46 5.0	7:48 0.6	14:10 5.6	20:40 0.7		S	7	3:19 5.1	9:31 0.8	15:39 5.3	21:56 0.6		Tu	7	3:25 5.3	9:42 0.8	15:47 5.1	21:54 0.5												
	F	8	2:55 5.0	8:55 0.7	15:15 5.5	21:43 0.6		M	8	4:11 5.4	10:25 0.7	16:31 5.4	22:42 0.4		W	8	4:11 5.6	10:31 0.7	16:33 5.1	22:39 0.3												
	S	9	3:58 5.1	10:00 0.6	16:15 5.6	22:37 0.4		Tu	9	4:59 5.6	11:13 0.5	17:19 5.5	23:25 0.2		Th	9	4:55 5.8	11:18 0.5	17:20 5.2	23:21 0.1												
	S	10	4:51 5.4	10:59 0.4	17:07 5.6	23:25 0.3		W	10	5:37 5.8	11:55 0.3	18:00 5.5			F	10	5:36 6.0	12:00 0.4	17:59 5.3													
E A	M	11	5:36 5.6	11:46 0.3	17:54 5.7		Th	11	0:04 0.1	6:15 6.0	12:35 0.2	18:36 5.5	S	S	11	0:02 0.0	6:17 6.3	12:41 0.2	18:39 5.3													
	Tu	12	0:07 0.2	6:16 5.8	12:29 0.2	18:35 5.8	F	12	0:41 0.0	6:50 6.2	13:10 0.1	19:10 5.5		S	12	0:44 0.0	6:58 6.5	13:21 0.1	19:17 5.3													
	W	13	0:45 0.0	6:51 5.9	13:05 0.1	19:11 5.8	S	13	1:15 0.0	7:25 6.3	13:46 0.1	19:45 5.4		M	13	1:22 0.0	7:39 6.6	14:02 0.0	19:58 5.3													
	Th	14	1:19 0.0	7:24 6.0	13:39 0.0	19:44 5.8	S	14	1:49 0.1	8:01 6.4	14:23 0.0	20:20 5.3		Tu	14	2:01 0.0	8:21 6.6	14:45 0.0	20:39 5.3													
	F	15	1:51 0.0	7:55 6.1	14:12 0.0	20:16 5.6	M	15	2:23 0.2	8:40 6.4	15:01 0.1	20:55 5.3		W	15	2:43 0.1	9:06 6.5	15:29 0.0	21:24 5.3													
	S	16	2:21 0.1	8:26 6.1	14:46 0.1	20:47 5.5	Tu	16	2:59 0.3	9:21 6.3	15:44 0.1	21:36 5.2		Th	16	3:28 0.2	9:51 6.4	16:15 0.0	22:13 5.3													
	S	17	2:51 0.3	9:01 6.1	15:22 0.1	21:21 5.3	W	17	3:39 0.5	10:06 6.2	16:31 0.8	22:23 5.1		F	17	4:18 0.4	10:41 6.1	17:05 0.1	23:08 5.4													
	M	18	3:23 0.4	9:40 6.1	16:01 0.3	21:54 5.2	Th	18	4:27 0.6	10:55 6.0	17:22 0.4	23:19 5.0		S	18	5:15 0.5	11:35 5.9	17:59 0.1														
	Tu	19	4:00 0.5	10:23 6.0	16:48 0.4	22:38 5.0	F	19	5:25 0.7	11:51 5.8	18:20 0.4			S	19	0:06 5.5	6:17 0.5	12:33 5.7	18:53 0.3													
	S	W	20	4:45 0.7	11:14 5.8	17:40 0.5	23:32 4.9	S	20	0:21 5.1	6:31 0.7	12:54 5.6		19:20 0.4	M	20	1:08 5.7	7:21 0.5	13:35 5.6	19:51 0.2												
D	Th	21	5:39 0.8	12:11 5.7	18:39 0.6		S	21	1:30 5.3	7:41 0.7	13:59 5.6	20:20 0.4	Tu	21	2:10 5.9	8:31 0.3	14:41 5.6	20:53 0.0														
	F	22	0:37 4.9	6:47 0.8	13:15 5.6	19:41 0.6	M	22	2:34 5.6	8:51 0.4	15:04 5.7	21:20 0.1	W	22	3:13 6.1	9:36 0.2	15:46 5.6	21:50 -0.3														
	S	23	1:49 5.0	7:59 0.7	14:23 5.6	20:49 0.4	Tu	23	3:36 6.0	9:58 0.0	16:08 5.9	22:19 -0.3	Th	23	4:12 6.5	10:40 0.0	16:43 5.7	22:45 -0.5														
	S	24	2:59 5.3	9:10 0.4	15:29 5.8	21:50 0.2	W	24	4:34 6.4	10:56 -0.4	17:06 6.1	23:11 -0.7	F	24	5:08 6.8	11:36 -0.2	17:37 5.8	23:39 -0.7														
	M	25	4:01 5.8	10:15 0.0	16:30 6.1	22:45 -0.2	Th	25	5:27 6.9	11:52 -0.6	17:57 6.2		S	25	6:00 7.1	12:29 -0.4	18:29 5.9															
	Tu	26	4:57 6.3	11:15 -0.4	17:26 6.4	23:40 -0.6	F	26	0:02 -0.9	6:19 7.2	12:44 -0.8	18:47 6.3	S	26	0:30 -0.8	6:50 7.2	13:19 -0.4	19:18 5.9														
	W	27	5:49 6.8	12:10 -0.8	18:20 6.7		S	27	0:51 -1.0	7:08 7.4	13:34 -0.8	19:34 6.2	M	27	1:20 -0.8	7:39 7.2	14:06 -0.4	20:06 5.8														
	Th	28	0:30 -1.0	6:39 7.2	13:00 -1.1	19:10 6.7	S	28	1:39 -1.0	7:56 7.4	14:21 -0.7	20:22 6.1	Tu	28	2:08 -0.6	8:25 7.0	14:51 -0.3	20:53 5.8														
	F	29	1:16 -1.1	7:28 7.4	13:50 -1.1	19:56 6.6	M	29	2:26 -0.8	8:44 7.2	15:09 -0.5	21:10 5.9	W	29	2:56 -0.4	9:11 6.7	15:36 -0.2	21:40 5.6														
	S	30	2:01 -1.1	8:15 7.4	14:39 -1.0	20:42 6.4	Tu	30	3:14 -0.5	9:31 6.9	15:56 -0.3	22:00 5.6	Th	30	3:43 -0.1	9:56 6.4	16:19 0.0	22:28 5.5														
E P	S	31	2:48 -1.0	9:04 7.3	15:26 -0.7	21:30 6.1	E P						O N	F	31	4:31 0.3	10:41 6.0	17:08 0.1	23:14 5.3													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian w.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.											
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.								
	W.	Mo.									W.	Mo.									W.	Mo.									
N	F	1	4:54	9:30	16:25	23:26	0.9	0.4	1.5	—0.2	M	1	0:31	6:50	10:42	17:54	—0.3	0.8	0.5	1.6	N	M	1	5:41	9:10	16:42	23:43	0.7	0.5	1.4	
	S	2	5:58	10:18	17:18	24:19	0.9	0.4	1.6	...	N	Tu	2	1:21	7:38	11:46	18:46	—0.3	0.8	0.5	1.7	Tu	2	0:19	6:37	10:46	17:46	—0.2	0.7	0.5	
	S	3	6:29	6:56	11:08	18:07	—0.3	0.9	0.4	1.7	W	3	2:01	8:20	12:41	19:33	—0.3	0.8	0.4	1.7	W	3	1:07	7:17	11:57	18:38	—0.2	0.9	0.4		
	M	4	1:24	7:46	11:56	18:54	—0.4	0.8	0.4	1.8	Th	4	2:34	8:57	13:29	20:15	—0.3	0.9	0.3	1.6	Th	4	1:40	7:53	12:51	19:24	—0.2	1.0	0.3		
	Tu	5	2:08	8:32	12:44	19:40	—0.5	0.8	0.4	1.8	○	F	5	3:03	9:31	14:13	20:55	—0.3	1.0	0.3	1.5	F	5	2:06	8:25	13:34	20:05	—0.2	1.0	0.2	
	W	6	2:47	9:14	13:30	20:22	—0.5	0.8	0.2	1.7	S	6	3:27	10:02	14:55	21:31	—0.2	1.0	0.2	1.4	○	S	6	2:26	8:53	14:10	20:42	—0.1	1.1	0.1	
	Th	7	3:22	9:55	14:15	21:03	—0.4	0.9	0.2	1.6	A	S	7	3:50	10:34	15:35	22:06	—0.1	1.1	0.2	1.3	A	S	7	2:55	9:20	14:45	21:17	—0.1	1.2	0.1
	F	8	3:55	10:36	15:01	21:43	—0.3	0.9	0.3	1.5	M	8	4:21	10:56	16:16	22:41	—0.1	1.1	0.1	1.2	E	M	8	3:18	9:39	15:20	21:50	0.0	1.2	0.0	
	S	9	4:27	11:15	15:45	22:20	—0.2	0.9	0.3	1.4	E	Tu	9	4:49	11:18	16:58	23:14	0.0	1.1	0.1	1.1	Tu	9	3:40	10:00	15:56	22:22	0.0	1.2	—0.1	
	S	10	4:56	11:55	16:33	23:00	—0.1	1.0	0.3	1.2	W	10	5:15	11:43	17:45	23:55	0.1	1.1	0.1	0.9	W	10	4:02	10:18	16:34	23:00	0.1	1.3	—0.1		
A	M	11	5:25	12:27	17:22	23:40	0.0	1.0	0.3	1.1	Th	11	5:40	12:10	18:38	...	0.2	1.2	0.1	...	Th	11	4:26	10:44	17:14	23:44	0.2	1.3	—0.1		
	Tu	12	6:04	13:00	18:15	...	0.1	1.1	0.3	...	F	12	6:04	12:44	19:32	...	0.7	0.3	1.2	0.1	F	12	4:54	11:05	18:00	...	0.2	1.4	—0.1		
	W	13	6:23	6:36	13:34	19:20	0.9	0.2	1.0	0.3	○	S	13	6:18	6:44	13:38	20:45	0.6	0.3	1.3	0.0	S	13	5:37	5:25	11:41	19:00	0.7	0.3	1.4	
	Th	14	1:27	7:08	14:15	20:29	0.8	0.3	1.1	0.2	S	14	4:04	7:33	14:46	22:08	0.6	0.4	1.4	0.0	○	S	14	2:06	6:00	12:33	20:12	0.6	0.3	1.4	
	F	15	3:04	7:44	14:58	21:29	0.7	0.3	1.2	0.1	M	15	5:22	8:39	16:00	23:22	0.6	0.5	1.5	—0.2	M	15	3:50	6:53	13:57	21:36	0.6	0.4	1.4		
	S	16	4:36	8:29	15:46	22:40	0.7	0.4	1.4	—0.1	S	Tu	16	6:18	9:50	17:07	...	0.7	0.4	1.6	...	S	Tu	16	5:02	8:14	15:33	22:54	0.6	0.5	1.4
	S	17	5:42	9:23	16:36	23:42	0.7	0.4	1.5	—0.2	W	17	6:21	7:02	11:01	18:07	—0.3	0.5	0.3	1.7	W	17	5:52	9:37	16:56	23:53	0.7	0.4	1.5		
	M	18	6:36	10:24	17:28	...	0.7	0.4	1.6	...	Th	18	1:10	7:41	12:09	19:04	—0.3	0.8	0.2	1.8	Th	18	6:33	11:01	18:03	...	0.8	0.3	1.6		
	Tu	19	6:38	7:23	11:22	18:18	—0.4	0.7	0.4	1.7	F	19	1:52	8:18	13:07	19:57	—0.4	1.0	0.1	1.8	F	19	6:41	7:09	12:09	19:00	—0.2	1.0	0.1		
	S	20	1:27	8:08	12:18	19:08	—0.5	0.8	0.3	1.8	●	S	20	2:31	8:55	14:02	20:48	—0.3	1.1	—0.1	1.8	●	S	20	1:21	7:43	13:08	19:52	—0.2	1.2	—0.1
●	Th	21	2:11	8:48	13:12	19:58	—0.5	0.8	0.2	1.9	S	21	3:08	9:31	14:56	21:39	—0.3	1.2	—0.2	1.7	●	S	21	2:06	8:18	14:00	20:42	—0.2	1.3	—0.3	
P	F	22	2:54	9:28	14:05	20:50	—0.5	0.9	0.1	1.9	E	M	22	3:52	10:04	15:50	22:30	—0.2	1.3	—0.2	1.5	E	M	22	2:40	8:51	14:51	21:32	—0.1	1.4	—0.4
	S	23	3:36	10:08	14:59	21:42	—0.4	1.0	0.0	1.8	Tu	23	4:28	10:40	16:46	23:24	—0.1	1.4	—0.3	1.3	Tu	23	3:14	9:25	15:40	22:23	—0.1	1.5	—0.5		
	S	24	4:16	10:48	15:53	22:35	—0.3	1.1	0.0	1.6	W	24	5:03	11:22	17:38	...	0.0	1.4	—0.2	...	W	24	3:48	10:03	16:28	23:16	0.0	1.6	—0.5		
	M	25	4:55	11:24	16:53	23:32	—0.2	1.2	0.0	1.4	Th	25	5:25	5:40	12:11	18:41	0.1	0.2	1.5	—0.2	Th	25	4:22	10:46	17:23	...	0.1	1.6	—0.4		
	Tu	26	5:43	12:05	17:58	...	0.0	1.2	0.0	...	○	F	26	1:38	6:18	13:08	20:00	0.9	0.3	1.4	—0.1	F	26	0:16	5:00	11:34	18:25	1.0	0.2	1.6	
	W	27	6:35	6:23	12:54	19:06	1.2	0.1	1.3	0.0	S	27	2:58	7:00	14:16	21:37	0.7	0.4	1.4	—0.1	S	27	1:22	5:40	12:30	19:37	0.8	0.4	1.5		
	Th	28	1:51	7:03	13:50	20:19	1.0	0.2	1.4	—0.1	S	28	4:23	7:52	15:32	23:13	0.7	0.5	1.4	—0.1	○	S	28	2:40	6:29	13:44	21:09	0.7	0.5	1.4	
	F	29	3:18	7:47	14:52	21:52	0.9	0.4	1.4	—0.1	M	29	4:04	7:33	15:06	22:41	0.7	0.6	1.5	...	M	29	4:04	7:33	15:06	22:41	0.7	0.6	1.5		
	S	30	4:38	8:36	15:57	23:21	0.8	0.5	1.5	—0.2	Tu	30	5:18	9:16	16:24	23:45	0.8	0.6	1.3	...	Tu	30	5:18	9:16	16:24	23:45	0.8	0.6	1.3		
	S	31	5:51	9:37	16:59	...	0.7	0.5	1.6	...	W	31	6:08	11:05	17:30	...	0.9	0.5	1.3	...	W	31	6:08	11:05	17:30	...	0.9	0.5	1.3		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
A	Th	1	0:29	6:44	12:04	18:23				S	1	0:00	6:28	12:30	18:50				Tu	1	6:28	13:06	19:48						
			0.0	0.9	0.4	1.4						0.1	1.1	0.1	1.2					1.4	—0.2	1.0							
	F	2	0:57	7:16	12:47	19:08	E	S	2	0:28	6:52	13:02	19:32				W	2	0:22	6:59	13:44	20:31							
			0.0	1.1	0.2	1.4						0.1	1.2	0.0	1.2					0.3	1.5	—0.4	0.9						
	S	3	1:24	7:44	13:24	19:49		M	3	0:51	7:16	13:30	20:11			O	Th	3	0:55	7:28	14:22	21:13							
E			0.0	1.1	0.1	1.4						0.1	1.3	—0.1	1.2					0.3	1.7	—0.5	0.9						
	S	4	1:48	8:07	13:57	20:27		Tu	4	1:15	7:40	14:01	20:48				F	4	1:31	8:01	15:04	21:57							
			0.0	1.2	0.0	1.3				0.2	1.4	—0.3	1.1			S	S	5	2:08	8:38	15:47	22:42							
	M	5	2:09	8:27	14:27	21:01	O	W	5	1:40	8:03	14:38	21:27					0.4	1.8	—0.5	0.8								
			0.0	1.3	—0.1	1.3				0.2	1.5	—0.4	1.0			S	6	2:48	9:20	16:31	23:30								
O	Tu	6	2:29	8:48	14:59	21:37		Th	6	2:08	8:28	15:15	22:08					0.3	1.8	—0.4	0.7								
			0.1	1.3	—0.2	1.2				0.2	1.6	—0.4	0.9			M	7	3:34	10:06	17:17									
	W	7	2:52	9:08	15:30	22:14		F	7	2:37	8:56	15:56	22:52					0.3	1.7	—0.3									
			0.1	1.4	—0.3	1.1				0.2	1.6	—0.4	0.8			Tu	8	0:18	4:28	11:00	18:06								
	Th	8	3:18	9:30	16:09	22:54		S	8	3:09	9:28	16:41	23:42					0.7	0.3	1.6	—0.2								
S			0.2	1.4	—0.3	0.9				0.3	1.6	—0.4	0.7			W	9	1:09	5:31	12:10	18:58								
	F	9	3:44	9:53	16:53	23:40	S	S	9	3:45	10:06	17:30					0.8	0.3	1.4	—0.1									
			0.2	1.5	—0.2	0.8				0.4	1.6	—0.3			C	Th	10	1:59	6:48	13:32	19:52								
	S	10	4:12	10:26	17:43			M	10	0:42	4:29	10:52	18:25					0.9	0.3	1.2	0.1								
			0.3	1.5	—0.2					0.7	0.4	1.5	—0.2			F	11	2:47	8:16	15:01	20:55								
C			0:41	4:48	11:06	18:40		Tu	11	1:48	5:27	12:00	19:25					1.0	0.8	1.1	0.2								
			0.7	0.3	1.5	—0.1				0.6	0.4	1.4	—0.1			E	S	12	3:38	9:41	16:30	21:45							
	M	12	2:09	5:31	12:04	19:48	C	W	12	2:52	6:43	13:33	20:30					1.1	0.1	1.1	0.2								
			0.7	0.4	1.4	—0.1				0.7	0.4	1.3	0.0			P	S	13	4:25	10:50	17:43	22:31							
	Tu	13	3:29	6:38	13:33	21:07		Th	13	3:48	8:16	15:14	21:33					1.3	—0.1	1.1	0.3								
P			0.7	0.4	1.4	0.0				0.8	0.4	1.2	0.1			M	14	5:13	11:59	18:39	23:16								
	W	14	4:31	8:10	15:21	22:20		F	14	4:29	9:50	16:39	22:40					1.5	—0.3	1.0	0.3								
			0.7	0.5	1.4	0.0				1.0	0.3	1.2	0.1			Tu	15	5:59	12:57	19:31									
	Th	15	5:19	9:43	16:49	23:16		S	15	5:07	11:03	17:49	23:25					1.7	—0.4	1.0									
			0.8	0.3	1.4	0.0				1.1	0.1	1.3	0.1			W	16	0:00	6:44	13:48	20:20								
E	F	16	5:56	11:06	17:56		E	S	16	5:45	12:00	18:50						0.3	1.8	—0.5	0.9								
			1.0	0.2	1.5					1.3	—0.2	1.3			●	Th	17	0:48	7:30	14:35	21:07								
	S	17	0:11	6:28	12:09	18:53		M	17	0:04	6:26	12:57	19:40					0.3	1.9	—0.6	0.8								
			0.0	1.1	—0.1	1.5				0.1	1.5	—0.4	1.3			N	F	18	1:27	8:14	15:18	21:52							
	S	18	0:50	7:00	13:02	19:47		Tu	18	0:42	7:06	13:47	20:28					0.3	1.9	—0.5	0.8								
N			0.0	1.3	—0.3	1.6				0.2	1.7	—0.6	1.2			S	19	2:11	9:00	16:00	22:38								
	M	19	1:26	7:35	13:50	20:36	●	W	19	1:19	7:46	14:35	21:15					0.3	1.8	—0.5	0.8								
			0.0	1.6	—0.5	1.5				0.2	1.8	—0.6	1.1			S	20	2:58	9:44	16:40	23:25								
	Tu	20	2:00	8:13	14:41	21:27		Th	20	1:56	8:28	15:23	22:03					0.3	1.7	—0.4	0.8								
			0.0	1.7	—0.6	1.4				0.2	1.8	—0.6	1.0			M	21	3:47	10:30	17:18									
D	W	21	2:34	8:53	15:30	22:15		F	21	2:34	9:12	16:08	22:54					0.4	1.6	—0.2									
			0.1	1.7	—0.6	1.2				0.2	1.8	—0.5	0.9			Tu	22	0:14	4:39	11:16	17:55								
	Th	22	3:08	9:33	16:20	23:06	N	S	22	3:16	9:56	16:57	23:48					0.8	0.4	1.4	—0.1								
			0.1	1.7	—0.5	1.0				0.3	1.7	—0.4	0.8			W	23	1:03	5:37	12:08	18:32								
	F	23	3:45	10:17	17:11			S	23	4:00	10:45	17:46						0.9	0.4	1.2	0.0								
A			0.2	1.7	—0.4				0.4	1.6	—0.3				Th	24	1:49	6:45	13:08	19:18									
	S	24	0:03	4:23	11:04	18:07		M	24	0:45	4:50	11:36	18:35					1.0	0.4	1.0	0.1								
			0.9	0.3	1.6	—0.3				0.8	0.4	1.6	—0.2			A	F	25	2:35	8:01	14:21	20:00							
	S	25	1:07	5:08	12:00	19:09		Tu	25	1:47	5:52	12:39	19:27					1.0	0.4	0.9	0.3								
			0.5	0.4	1.5	—0.2				0.8	0.5	1.3	0.0			D	S	26	3:17	9:20	15:46	20:37							
O	M	26	2:19	6:07	13:12	20:20	D	W	26	2:48	7:12	13:55	20:18					1.0	0.4	0.8	0.3								
			0.7	0.5	1.3	0.0				0.9	0.5	1.1	0.1			E	S	27	3:58	10:22	16:57	21:16							
	Tu	27	3:33	7:26	14:35	21:36		Th	27	3:45	8:55	15:14	21:17					1.1	0.3	0.8	0.4								
			0.8	0.6	1.2	0.0				0.9	0.5	1.0	0.2			M	28	4:35	11:09	17:56	22:00								
	W	28	4:38	9:23	15:58	22:40		F	28	4:28	10:25	16:30	22:05					1.3	0.1	0.8	0.4								
S			0.9	0.6	1.2	0.1				1.0	0.4	1.0	0.2			Tu	29	5:10	11:59	18:45	22:45								
	Th	29	5:27	10:56	17:03	23:23	E	S	29	5:03	11:21	17:32	22:43					1.4	—1.0	0.8	0.4								
			1.0	0.5	1.1	0.1				1.1	0.2	1.0	0.3			W	30	5:46	12:45	19:31	23:34								
	F	30	6:00	11:51	18:00			S	30	5:33	11:57	18:24	23:27					1.5	—0.3	0.8	0.4								
			1.1	0.3	1.1					1.2	0.1	1.0	0.3																
A							M	31	6:02	12:28	19:08	23:46																	
										1.3	—0.1	1.0	0.3																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ♀, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.				
O	Th 1	6:24 1.6	13:28 -0.4	20:15 0.7		O	S 1	0:52 0.2	7:43 1.8	14:35 -0.5	21:07 0.9
	F 2	0:20 0.3	7:07 1.8	14:10 -0.5	20:57 0.7		M 2	1:44 0.1	8:31 1.9	15:14 -0.4	21:44 1.0
	S 3	1:05 0.3	7:48 1.8	14:52 -0.5	21:38 0.8		Tu 3	2:37 0.0	9:21 1.8	15:52 -0.3	22:21 1.1
	S 4	1:52 0.3	8:32 1.9	15:34 -0.5	22:18 0.8		W 4	3:29 0.0	10:12 1.7	16:30 -0.2	22:54 1.2
	M 5	2:41 0.2	9:22 1.8	16:07 -0.5	23:00 0.8		Th 5	4:27 -0.1	11:06 1.5	17:15 -0.1	23:31 1.2
P	Tu 6	3:33 0.2	10:11 1.7	16:58 -0.3	23:41 0.9	C	F 6	5:27 -0.1	12:04 1.3	17:58 0.0	
	W 7	4:30 0.2	11:08 1.6	17:40 -0.2			S 7	6:16 1.3	6:31 -0.1	18:14 1.1	18:31 0.2
	Th 8	0:20 1.0	5:33 0.2	12:11 1.4	18:30 0.0		S 8	1:09 1.3	7:38 0.0	14:39 0.9	19:12 0.3
	F 9	1:03 1.1	6:44 0.1	13:24 1.1	19:17 0.1		M 9	2:11 1.4	9:05 0.0	16:00 0.7	19:59 0.4
	S 10	1:55 1.1	8:03 0.1	14:51 1.0	20:01 0.2		Tu 10	3:20 1.5	10:43 -0.1	17:21 0.7	20:59 0.4
E	S 11	2:51 1.2	9:19 0.0	16:18 0.9	20:48 0.4	N	W 11	4:28 1.5	12:02 -0.2	18:26 0.7	22:11 0.5
	M 12	3:50 1.4	10:47 -0.1	17:30 0.8	21:38 0.4		Th 12	5:31 1.6	12:59 -0.3	19:07 0.7	23:24 0.4
	Tu 13	4:46 1.6	12:00 -0.3	18:31 0.8	22:34 0.3		F 13	6:27 1.7	13:43 -0.3	20:00 0.8	
	W 14	5:42 1.7	13:01 -0.4	19:25 0.8	23:30 0.4		S 14	6:25 0.3	7:17 1.7	14:19 -0.3	20:35 0.9
	Th 15	6:33 1.8	13:51 -0.4	20:12 0.8			S 15	1:18 0.3	8:03 1.7	14:43 -0.3	21:10 1.0
N	F 16	0:24 0.3	7:22 1.8	14:31 -0.5	20:55 0.8	A	M 16	2:05 0.2	8:45 1.6	15:13 -0.2	21:43 1.1
	S 17	1:15 0.3	8:09 1.8	15:10 -0.4	21:36 0.9		Tu 17	2:47 0.2	9:23 1.5	15:40 -0.2	22:13 1.1
	S 18	2:02 0.3	8:53 1.7	15:45 -0.4	22:15 0.9		W 18	3:30 0.1	10:00 1.4	16:09 -0.1	22:38 1.1
	M 19	2:50 0.3	9:35 1.6	16:13 -0.3	22:54 1.0		Th 19	4:08 0.1	10:37 1.2	16:34 0.0	23:02 1.2
	Tu 20	3:40 0.3	10:18 1.5	16:43 -0.2	23:32 1.0		F 20	4:50 0.1	11:10 1.1	16:58 0.1	23:26 1.1
D	W 21	4:27 0.3	10:56 1.3	17:14 -0.1		S	S 21	5:33 0.1	11:49 1.0	17:21 0.2	23:52 1.2
	Th 22	0:05 1.0	5:15 0.3	11:37 1.2	17:50 0.0		S 22	6:17 0.1	12:40 0.8	17:47 0.3	
	F 23	0:40 1.1	6:07 0.3	12:22 1.0	18:19 0.2		M 23	6:20 1.2	7:08 0.1	18:56 0.6	18:18 0.3
	S 24	1:16 1.0	7:06 0.3	13:20 0.8	18:46 0.3		Tu 24	1:08 1.3	8:16 0.1	15:43 0.5	19:02 0.3
	S 25	1:54 1.1	8:10 0.3	14:58 0.7	19:18 0.3		W 25	2:12 1.3	9:39 0.0	17:06 0.6	20:05 0.4
S	M 26	2:37 1.2	9:09 0.2	16:17 0.7	20:00 0.4	S	Th 26	3:29 1.4	10:56 0.0	18:03 0.6	21:20 0.4
	Tu 27	3:26 1.3	10:24 0.1	17:28 0.6	20:51 0.4		F 27	4:42 1.5	11:58 -0.2	18:45 0.7	22:37 0.4
	W 28	4:18 1.4	11:28 -0.1	18:25 0.6	21:54 0.4		S 28	5:48 1.6	12:47 -0.3	19:23 0.8	23:48 0.2
	Th 29	5:10 1.5	12:23 -0.2	19:12 0.7	22:58 0.4		S 29	6:43 1.7	13:28 -0.3	19:57 0.9	
	F 30	6:02 1.7	13:10 -0.4	19:52 0.7	23:56 0.3		M 30	0:47 0.1	7:37 1.8	14:07 -0.3	20:32 1.1
	S 31	6:51 1.8	13:54 -0.4	20:31 0.8			Tu 31	1:42 -0.1	8:27 1.8	14:44 -0.3	21:04 1.2

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The time used is Eastern Standard, 90th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon, (a. m.) all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
F	1		3:45	10:00	15:22	21:37		4:48	11:38	16:03	22:41		5:25	12:17
			-0.5	1.4	0.0	1.6		-0.5	0.9	0.3	1.7		-0.4	0.8
			1:05	10:53	15:57	22:20		5:43	12:40	16:50	23:30		6:13	13:16
S	2		-0.5	1.2	0.1	1.7		-0.4	0.8	0.3	1.6		-0.2	0.8
			4:07	11:51	16:31	23:04		6:43	13:18	17:47			0.22	7:03
			-0.4	1.0	0.2	1.6		-0.2	0.7	0.4			1.3	-0.1
M	3		5:57	12:55	17:15	23:58		0:42	7:47	14:58	19:01		1:33	7:54
			-0.3	0.8	0.3	1.5		1.4	-0.1	0.8	0.5		1.2	0.1
			7:01	14:08	18:04			2:05	8:59	16:04	20:52		2:51	8:52
Tu	4		-0.2	0.7	0.4			1.3	0.0	0.9	0.5		1.0	0.2
			1:07	8:25	15:30	19:10		3:30	10:02	16:58	22:33		4:12	9:40
			1.4	-0.1	0.7	0.5		1.2	0.1	1.0	0.4		1.0	0.3
W	5		2:31	9:54	16:14	20:41		4:43	10:58	17:37	23:38		5:20	10:20
			1.4	-0.1	0.7	0.5		1.1	0.1	1.1	0.2		0.9	0.3
			3:56	11:10	17:41	22:40		5:47	11:38	18:07			6:13	10:52
Th	6		1.3	0.0	0.8	0.5		1.1	0.1	1.2			0.9	0.3
			5:08	12:01	18:21	23:50		0:23	6:40	12:09	18:55		0:27	7:00
			1.3	0.0	1.0	0.3		0.1	1.1	0.2	1.3		0.0	0.9
F	7		6:07	12:36	18:55			0:55	7:23	12:23	19:02		1:02	7:40
			1.3	0.0	1.1			0.0	1.2	0.2	1.4		-0.2	0.9
			0:37	6:57	13:08	19:23		1:20	8:01	12:57	19:28		1:38	8:22
S	8		0.2	1.3	0.0	1.2		-0.1	1.1	0.2	1.5		-0.3	0.9
			1:18	7:41	13:38	19:48		1:55	8:39	13:23	19:52		2:15	9:02
			0.1	1.3	0.0	1.3		-0.2	1.0	0.3	1.6		-0.4	0.8
Tu	9		1:52	8:20	13:54	20:11		2:30	9:17	13:49	20:16		2:51	9:45
			0.0	1.3	0.1	1.3		-0.5	1.0	0.3	1.6		-0.5	0.8
			2:22	8:57	14:13	20:34		3:05	9:57	14:19	20:43		3:32	10:26
W	10		-0.1	1.3	0.1	1.4		-0.4	0.9	0.3	1.6		-0.5	0.7
			2:48	9:32	14:36	20:57		3:43	10:40	14:56	21:10		4:12	11:09
			-0.2	1.2	0.2	1.4		-0.4	0.8	0.3	1.7		-0.4	0.7
Th	11		3:22	10:08	15:00	21:12		4:14	11:27	15:27	21:47		4:56	11:53
			-0.3	1.0	0.2	1.5		-0.4	0.7	0.3	1.6		-0.3	0.7
			3:57	10:45	15:25	21:38		5:10	12:20	16:08	22:28		5:40	12:26
F	12		-0.3	0.9	0.2	1.5		-0.3	0.7	0.3	1.5		-0.2	0.8
			4:37	11:30	15:52	22:05		5:58	13:18	17:02	23:26		6:26	13:20
			-0.3	0.8	0.3	1.5		-0.2	0.7	0.3	1.4		-0.1	0.8
S	13		5:20	12:21	16:27	22:40		6:52	14:18	18:12			0:48	7:15
			-0.2	0.7	0.3	1.5		-0.1	0.7	0.4			1.3	0.0
			6:15	13:10	17:10	23:28		0:43	7:50	15:07	19:39		2:15	8:13
Tu	14		-0.1	0.6	0.4	1.4		1.3	0.0	0.8	0.4		1.1	0.1
			7:15	15:01	18:11			2:25	9:51	15:53	21:12		3:47	9:03
			-0.1	0.6	0.4			1.2	0.1	1.0	0.3		1.1	0.2
W	15		0:45	8:28	16:03	19:37		3:00	10:00	16:34	22:32		5:10	9:50
			1.3	0.0	0.7	0.5		1.2	0.2	1.1	0.4		1.0	0.3
			2:45	9:48	16:52	21:10		5:17	10:47	17:15	23:31		6:10	10:38
Th	16		1.3	0.0	0.8	0.4		1.2	0.2	1.3	-0.2		0.9	0.3
			4:13	10:38	17:38	22:37		6:23	11:32	17:57			0:28	7:07
			1.3	0.0	0.9	0.2		1.2	0.2	1.5			-0.4	0.9
F	17		5:28	11:40	17:58	23:44		0:29	7:17	12:11	18:28		1:24	7:57
			1.4	0.0	1.1	0.0		-0.4	1.2	0.2	1.7		-0.5	0.8
			6:27	12:30	18:32			1:23	8:05	12:51	19:22		2:13	8:44
S	18		1.4	0.0	1.3			-0.5	1.1	0.2	1.8		-0.6	0.8
			0:38	7:22	12:56	19:09		2:13	8:54	13:20	20:35		2:58	9:30
			-0.2	1.3	0.0	1.5		-0.6	1.0	0.2	1.9		-0.6	0.8
Tu	19		1:07	8:13	13:32	19:47		3:02	9:42	14:12	20:50		3:42	10:15
			-0.5	1.4	0.0	1.7		-0.7	0.9	0.2	1.9		-0.5	0.8
			2:18	9:04	14:07	20:27		3:50	10:32	14:56	21:37		4:22	11:00
W	20		-0.6	1.3	0.4	1.8		-0.6	0.8	0.2	1.8		-0.4	0.9
			3:08	9:53	14:45	21:08		4:37	11:27	15:43	22:27		5:00	11:47
			-0.6	1.2	0.4	1.8		-0.5	0.8	0.3	1.7		-0.3	0.9
Th	21		3:57	10:41	15:23	21:49							5:37	12:34
			-0.6	1.0	0.2	1.8							-0.1	1.0

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The time used is Eastern Standard, with meridian W., 0° is midnight, 12° is noon, all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon, for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quarter; ☽, full moon; ☾, 3d quarter; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.				FEBRUARY.				MARCH.			
Mo.	Day of—	Time and Height of High and Low Water.		Mo.	Day of—	Time and Height of High and Low Water.		Mo.	Day of—	Time and Height of High and Low Water.	
	W. Mo.				W. Mo.				W. Mo.		
O	F 1	6:37 0.1	14:54 1.6		M 1	7:55 -0.1	17:34 1.2	N	M 1	6:36 0.0	16:05 1.2
	S 2	7:27 0.0	16:16 1.2	N	Tu 2	8:40 -0.2	18:20 1.3		Tu 2	7:30 -0.1	16:48 1.2
	S 3	8:10 -0.1	17:25 1.2		W 3	9:20 -0.2	18:50 1.3		W 3	8:16 -0.1	17:18 1.2
	M 4	8:54 -0.2	18:30 1.3		Th 4	9:56 -0.2	19:22 1.3		Th 4	9:00 0.0	17:45 1.2
	Tu 5	9:35 -0.2	19:16 1.3	O	F 5	10:32 -0.1	19:44 1.2		F 5	9:40 0.0	18:10 1.2
	W 6	10:15 -0.2	20:00 1.3		S 6	11:05 -0.1	19:54 1.2	O	S 6	10:15 0.0	18:20 1.0
	Th 7	10:45 -0.2	20:34 1.3	A	S 7	11:40 0.0	19:58 1.1	A	S 7	10:54 0.1	18:22 0.9
	F 8	11:25 -0.2	21:00 1.3		M 8	12:20 0.1	20:05 1.0	E	M 8	0:00 0.7	4:20 0.8
	S 9	11:54 -0.1	21:05 1.2	E	Tu 9	13:00 0.2	20:08 0.9		Tu 9	0:12 0.6	5:30 0.8
	S 10	12:28 0.0	21:20 1.2		W 10	2:24 0.6	7:27 0.4		W 10	0:30 0.5	6:37 0.9
A	M 11	13:10 0.1	21:35 1.1		Th 11	2:26 0.4	8:35 0.8		Th 11	0:54 0.4	7:40 0.9
	Tu 12	13:55 0.3	21:38 1.0		F 12	3:06 0.3	10:25 0.8		F 12	1:24 0.2	9:10 1.0
	W 13	4:55 0.5	8:45 0.6	☾	S 13	4:00 0.1	12:34 1.0		S 13	2:14 0.1	10:52 1.0
	Th 14	4:40 0.4	10:52 0.7		S 14	4:56 0.0	15:00 1.1	☾	S 14	3:14 -0.1	13:00 1.1
	F 15	5:10 0.3	12:32 0.8		M 15	5:56 -0.2	16:40 1.2		M 15	4:16 -0.1	14:45 1.2
	S 16	5:50 0.1	14:34 1.0	S	Tu 16	7:00 -0.3	17:25 1.2	S	Tu 16	5:26 -0.2	15:44 1.2
	S 17	6:34 -0.1	16:12 1.1		W 17	7:55 -0.3	17:50 1.3		W 17	6:35 -0.2	16:06 1.2
	M 18	7:22 -0.2	17:28 1.3		Th 18	8:55 -0.4	18:15 1.2		Th 18	7:43 -0.2	16:30 1.1
	Tu 19	8:10 -0.4	18:25 1.3		F 19	9:50 -0.3	18:30 1.1		F 19	8:35 1.0	16:48 -0.1
	W 20	9:05 -0.4	19:06 1.3	●	S 20	10:50 -0.2	18:44 1.0		S 20	2:10 1.0	9:45 0.0
P	Th 21	10:00 -0.5	19:40 1.3	P	S 21	3:58 1.0	11:36 -0.1	●	S 21	3:32 1.0	10:40 0.0
	F 22	10:50 -0.4	20:06 1.3	E	M 22	0:02 0.6	5:22 1.0	E	M 22	4:42 1.1	11:32 0.2
	S 23	11:44 -0.3	20:15 1.2		Tu 23	0:54 0.5	6:42 0.9		Tu 23	5:54 1.1	12:30 0.4
	S 24	12:30 -0.2	20:25 1.1		W 24	1:45 0.4	8:00 0.9		W 24	0:04 0.2	7:12 1.1
	M 25	1:40 0.7	5:42 0.9		Th 25	2:26 0.3	9:45 0.9		Th 25	0:54 0.1	8:35 1.1
	Tu 26	2:41 0.6	7:36 0.8	☽	F 26	3:31 0.2	11:52 1.0		F 26	1:49 0.0	10:14 1.1
	W 27	3:14 0.4	9:26 0.8		S 27	4:35 0.1	13:40 1.1		S 27	2:47 0.0	11:53 1.1
	Th 28	4:10 0.3	11:25 0.9		S 28	5:38 0.0	15:07 1.2	☽	S 28	3:48 0.0	13:10 1.2
	F 29	5:15 0.2	13:36 1.0						M 29	4:48 0.0	14:10 1.2
	S 30	6:10 0.0	15:10 1.1						Tu 30	5:48 0.1	14:54 1.2
	S 31	7:06 -0.1	16:35 1.2						W 31	6:45 0.1	15:30 1.2

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●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.				
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.		
	W. Mo.					W. Mo.					W. Mo.			
A	Th 1	7:30 0.1	15:42 1.1		E	S 1	2:25 0.7	8:06 0.4	14:20 0.9	20:50 0.4	C	Tu 1	4:12 1.1	20:36 0.0
	F 2	8:22 0.2	16:05 1.0	22:20 0.6		S 2	3:08 0.8	9:05 0.4	14:54 0.8	21:05 0.4		W 2	5:15 1.2	21:08 -0.2
	S 3	2:50 0.8	9:14 0.2	16:15 0.9		M 3	3:52 0.9	10:05 0.5	14:40 0.7	21:20 0.2		Th 3	6:10 1.3	21:48 -0.3
E	S 4	3:48 0.8	10:00 0.3	16:22 0.8	C	Tu 4	4:45 1.0	11:08 0.6	14:18 0.7	21:38 0.1	S	F 4	7:10 1.4	22:32 -0.4
	M 5	4:32 0.9	10:48 0.4	16:48 0.8		W 5	5:44 1.2	22:15 -0.1				S 5	8:05 1.4	23:20 -0.4
	Tu 6	5:10 0.9	11:46 0.5	16:32 0.7		Th 6	6:42 1.2	22:50 -0.2				S 6	9:18 1.4	
C	W 7	6:10 1.0	23:20 0.2		S	F 7	7:44 1.3	23:30 -0.3			C	M 7	0:10 -0.4	9:40 1.3
	Th 8	7:10 1.1	23:55 0.0			S 8	8:50 1.3					Tu 8	1:05 -0.3	10:12 1.2
	F 9	8:22 1.1			C	S 9	0:16 -0.3	9:57 1.3			E	W 9	1:58 -0.1	10:37 1.1
S	S 10	0:36 -0.1	9:38 1.2			M 10	1:10 -0.3	10:52 1.3				Th 10	2:58 0.1	10:55 1.0
	S 11	1:28 -0.2	11:05 1.2			Tu 11	2:14 -0.2	11:35 1.2			P	F 11	4:08 0.3	11:05 0.9
	M 12	2:30 -0.2	12:20 1.2		E	W 12	3:15 -0.1	12:10 1.1				S 12	5:40 0.5	11:35 0.8
C	Tu 13	3:42 -0.1	13:13 1.2			Th 13	4:25 0.1	12:25 1.0	18:36 0.7	22:45 0.8		S 13	1:25 0.9	6:55 0.6
	W 14	4:52 -0.1	13:50 1.1		E	F 14	5:40 0.3	12:42 0.9	19:00 0.5		N	M 14	3:12 1.1	19:51 -0.1
	Th 15	6:08 0.0	14:10 1.0	19:30 0.8		S 15	1:00 0.8	7:12 0.4	13:18 0.8	19:28 0.4		Tu 15	4:32 1.2	20:38 -0.2
P	F 16	7:22 0.1	14:30 0.9	20:04 0.6	E	S 16	2:15 1.0	8:30 0.5	13:25 0.7	20:05 0.2	A	W 16	5:47 1.3	21:24 -0.3
	S 17	1:42 1.0	8:32 0.2	14:58 0.8		M 17	3:36 1.1	9:46 0.6	13:28 0.7	20:50 0.0		Th 17	6:48 1.4	22:06 -0.3
	S 18	2:55 1.0	9:34 0.3	15:22 0.8	E	Tu 18	4:52 1.2	21:34 -0.2			D	F 18	7:40 1.4	22:46 -0.3
E	M 19	4:12 1.1	10:48 0.4	15:30 0.8		W 19	6:02 1.3	22:20 -0.2				S 19	8:26 1.4	23:25 -0.3
	Tu 20	5:20 1.2	11:50 0.6	15:34 0.7		Th 20	7:10 1.3	23:05 -0.3			E	S 20	9:03 1.3	
	W 21	6:34 1.2	12:50 0.7	15:38 0.8	N	F 21	8:22 1.3	23:48 -0.2				M 21	0:05 -0.2	9:15 1.3
N	Th 22	7:44 1.2				S 22	9:08 1.3					Tu 22	0:40 -0.1	9:46 1.2
	F 23	0:15 -0.1	9:00 1.2		D	S 23	0:32 -0.2	9:58 1.3			A	W 23	1:20 0.0	10:06 1.2
	S 24	1:02 -0.1	10:10 1.2			M 24	1:15 -0.1	10:36 1.3				Th 24	2:05 0.2	10:26 1.1
D	S 25	1:54 -0.1	11:15 1.2			Tu 25	1:55 0.0	11:10 1.2			E	F 25	2:57 0.4	10:40 1.0
	M 26	2:50 0.0	12:10 1.2		A	W 26	2:45 0.1	11:40 1.1				S 26	3:55 0.5	10:45 0.9
	Tu 27	3:40 0.1	12:50 1.2		E	Th 27	3:40 0.3	12:02 1.1				S 27	1:10 0.8	5:14 0.7
A	W 28	4:35 0.2	13:25 1.1			F 28	4:50 0.4	12:22 1.0	19:46 0.4		W	M 28	2:28 0.9	6:00 0.8
	Th 29	5:40 0.3	13:50 1.0			S 29	1:20 0.7	6:10 0.5	12:25 0.9	19:40 0.8		Tu 29	3:45 1.0	19:32 -0.1
	F 30	6:48 0.3	14:06 1.0	21:05 0.5	M	S 30	2:28 0.8	7:25 0.6	12:54 0.8	19:54 0.3		W 30	5:04 1.3	20:10 -0.2
						M 31	3:14 0.9	8:34 0.6	12:36 0.8	20:10 0.1				

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.	
W. Mo.				W. Mo.				W. Mo.			
Th 1	1	6:00	20:15	○ S 1	1	7:08	22:25	P W 1	1	6:15	11:25
		1.3	-0.4			1.3	-0.4			0.9	0.6
F 2	2	6:54	21:37	M 2	2	7:32	23:20	E Th 2	2	0:14	6:35
		1.4	-0.4			1.2	-0.3			0.1	0.9
S 3	3	7:40	22:25	P Tu 3	3	7:36	11:35	F 3	3	1:05	6:58
		1.4	-0.5			1.1	0.9			0.3	0.8
S 4	4	8:22	23:14	W 4	4	0:10	7:48	S 4	4	2:15	7:05
		1.4	-0.4			-0.1	1.0			0.5	0.8
M 5	5	8:52		E Th 5	5	1:00	8:02	S 5	5	3:20	7:10
		1.3				0.1	0.9			0.5	0.8
Tu 6	6	9:08	8:58	F 6	6	1:54	8:17	☾ M 6	6	15:50	
		-0.3	1.2			0.3	0.9			0.0	
P W 7	7	1:10	9:20	S 7	7	3:00	8:44	Tu 7	7	0:56	16:50
		-0.1	1.1			0.5	0.8			1.1	0.0
Th 8	8	1:56	9:31	☾ S 8	8	4:10	8:50	N W 8	8	2:25	17:56
		0.1	1.0			0.7	0.8			1.2	0.0
E F 9	9	2:50	9:42	M 9	9	1:04	17:28	Th 9	9	3:24	19:00
		0.3	0.9			1.0	0.0			1.2	0.0
☾ S 10	10	4:14	10:08	Tu 10	10	2:58	18:30	F 10	10	4:05	19:55
		0.5	0.9			1.1	-0.1			1.2	0.0
S 11	11	0:25	5:05	W 11	11	4:06	19:28	S 11	11	4:42	20:44
		0.9	0.7			1.2	-0.2			1.2	0.0
M 12	12	2:30	18:50	N Th 12	12	5:05	20:18	S 12	12	5:06	11:40
		1.0	-0.1			1.2	-0.2			1.1	0.5
Tu 13	13	3:57	19:40	F 13	13	5:47	21:05	M 13	13	5:20	11:20
		1.1	-0.2			1.3	-0.2			1.0	0.5
W 14	14	5:20	20:28	S 14	14	6:20	21:45	● Tu 14	14	5:34	11:27
		1.2	-0.3			1.2	-0.1			1.0	0.7
Th 15	15	6:14	21:16	● S 15	15	6:37	22:24	E W 15	15	5:40	11:40
		1.3	-0.3			1.2	-0.1			0.9	0.6
N F 16	16	6:55	21:57	M 16	16	7:04	23:00	A Th 16	16	5:42	11:55
		1.3	-0.3			1.2	0.0			0.8	0.5
● S 17	17	7:32	22:36	Tu 17	17	7:14	23:36	F 17	17	0:10	6:08
		1.3	-0.2			1.1	0.1			0.4	0.8
S 18	18	8:00	23:10	W 18	18	7:20	13:30	S 18	18	1:03	5:55
		1.3	-0.2			1.0	0.7			0.5	0.7
M 19	19	8:14	23:45	Th 19	19	0:12	7:26	S 19	19	2:10	5:34
		1.3	-0.1			0.2	0.9			0.6	0.8
Tu 20	20	8:30		A E F 20	20	0:51	7:30	M 20	20	13:42	22:32
		1.2				0.3	0.9			0.0	1.1
W 21	21	0:18	8:45	S 21	21	1:52	7:46	Tu 21	21	14:35	
		0.0	1.1			0.5	0.8			-0.1	
Th 22	22	0:57	8:56	S 22	22	2:38	7:37	☾ W 22	22	0:08	15:40
		0.2	1.1			0.6	0.8			1.1	-0.1
A E F 23	23	1:44	9:00	☾ M 23	23	15:34		S Th 23	23	1:45	16:44
		0.3	1.0			0.1				1.1	-0.1
S 24	24	2:26	9:08	Tu 24	24	0:24	16:26	F 24	24	2:38	17:58
		0.5	0.9			0.9	0.0			1.2	-0.1
☾ S 25	25	3:32	9:22	W 25	25	2:35	17:28	S 25	25	3:12	19:08
		0.6	0.9			1.1	-0.1			1.1	-0.1
M 26	26	9:06	17:25	Th 26	26	3:42	18:28	S 26	26	3:34	7:55
		0.9	0.1			1.2	-0.2			1.1	0.9
Tu 27	27	2:30	18:06	S F 27	27	4:42	19:30	M 27	27	3:50	8:45
		1.0	-0.1			1.2	-0.3			0.9	0.7
W 28	28	3:55	18:55	S 28	28	5:18	20:30	Tu 28	28	4:10	9:24
		1.2	-0.2			1.2	-0.3			0.8	0.6
Th 29	29	5:08	19:46	S 29	29	5:38	8:55	☾ W 29	29	4:36	10:05
		1.3	-0.3			1.2	1.0			0.8	0.4
S F 30	30	6:00	20:38	☾ M 30	30	5:48	9:40	Th 30	30	4:52	10:48
		1.3	-0.4			1.1	1.0			0.8	0.3
S 31	31	6:36	21:38	Tu 31	31	6:00	10:40				
		1.3	-0.4			1.0	0.7				

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OCTOBER.										NOVEMBER.										DECEMBER.																																																																																																																																																													
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.																																																																																																																																																								
	W.	Mo.										W.	Mo.										W.	Mo.																																																																																																																																																									
N	F	1	0:26 0.5	5:08 0.7	11:27 0.1	18:56 1.2	M	1	12:40 -0.2	21:54 1.3	C	W	1	13:01 -0.2	22:15 1.3	E	Th	2	13:45 0.0	22:47 1.2	A	F	3	14:30 0.1	23:14 1.2	S	S	4	15:30 0.3	23:36 1.1	M	S	5	16:40 0.4	23:54 1.0	W	M	6	7:26 0.4	18:33 0.7	17:57 0.6	Th	Tu	7	0:04 0.9	7:33 0.3	14:44 0.8	19:12 0.6	F	W	8	0:28 0.8	7:50 0.2	15:45 0.9	20:40 0.7	S	Th	9	0:05 0.8	8:07 0.1	16:40 1.1	M	F	10	8:27 0.0	17:30 1.2	Tu	S	11	8:57 -0.2	18:22 1.3	W	S	12	9:30 -0.3	19:14 1.3	Th	M	13	10:13 -0.3	20:12 1.8	F	Tu	14	10:59 -0.4	21:01 1.4	S	W	15	11:40 -0.4	21:17 1.4	M	Th	16	12:33 -0.3	21:43 1.8	W	F	17	13:28 -0.2	22:09 1.1	Th	S	18	14:25 -0.0	22:24 1.0	F	S	19	15:30 0.2	22:36 1.0	M	M	20	5:00 0.6	11:14 0.8	17:00 0.5	23:01 0.8	Tu	W	21	5:40 0.3	12:49 0.9	18:22 0.6	23:05 0.8	W	Th	22	6:30 0.1	14:44 1.0	19:25 0.8	22:56 0.9	Th	F	23	7:18 -0.1	16:14 1.1	F	S	24	8:06 -0.2	17:26 1.3	M	S	25	8:55 -0.3	18:34 1.3	W	S	26	9:44 -0.4	19:26 1.4	Th	M	27	10:29 -0.4	20:07 1.4	F	Tu	28	10:13 -0.3	20:43 1.3	S	W	29	11:55 -0.2	21:02 1.3	M	Th	30	12:33 -0.1	21:21 1.2	W	F	31	13:11 -0.0	21:41 1.2

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JULY.					AUGUST.					SEPTEMBER.				
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.		
W. Mo.					W. Mo.					W. Mo.				
Th	1	6:00	20:15		○ S	1	7:08	22:25		P W	1	6:15	11:25	17:18
		1.3	—0.4				1.3	—0.4				0.9	0.6	1.0
F	2	6:54	21:37		M	2	7:32	23:20		E Th	2	0:14	6:35	12:14
		1.4	—0.4				1.2	—0.3				0.1	0.9	0.4
S	3	7:40	22:25		P Tu	3	7:36	11:35	16:04	F	3	1:05	6:58	13:00
		1.4	—0.5				1.1	0.9	1.0			0.3	0.8	0.3
S	4	8:22	23:14		W	4	0:10	7:48	13:05	S	4	2:15	7:05	13:44
		1.4	—0.4				—0.1	1.0	0.7			0.5	0.8	0.1
M	5	8:52			E Th	5	1:00	8:02	13:52	S	5	3:20	7:10	14:45
		1.3					0.1	0.9	0.5			0.5	0.8	0.1
Tu	6	0:06	8:58		F	6	1:54	8:17	14:30	○ M	6	15:50		
		—0.3	1.2				0.3	0.9	0.4			0.0		
P W	7	1:10	9:20		S	7	3:00	8:44	15:22	Tu	7	0:56	16:50	
		—0.1	1.1				0.5	0.8	0.2			1.1	0.0	
Th	8	1:56	9:31	15:40	○ S	8	4:10	8:50	16:26	N W	8	2:25	17:56	
		0.1	1.0	0.6			0.7	0.8	0.1			1.2	0.0	
E F	9	2:50	9:42	16:08	M	9	1:04	17:28		Th	9	3:24	19:00	
		0.3	0.9	0.4			1.0	0.0				1.2	0.0	
○ S	10	4:14	10:08	17:00	Tu	10	2:58	18:30		F	10	4:05	19:55	
		0.5	0.9	0.3			1.1	—0.1				1.2	0.0	
S	11	0:25	5:05	10:15	W	11	4:06	19:28		S	11	4:42	20:44	
		0.9	0.7	0.9			1.2	—0.2				1.2	0.0	
M	12	2:30	18:50		N Th	12	5:05	20:18		S	12	5:06	11:40	13:52
		1.0	—0.1				1.2	—0.2				1.1	0.5	0.8
Tu	13	3:57	19:40		F	13	5:47	21:05		M	13	5:20	11:20	16:02
		1.1	—0.2				1.3	—0.2				1.0	0.5	0.8
W	14	5:20	20:28		S	14	6:20	21:45		● Tu	14	5:34	11:27	16:02
		1.2	—0.3				1.2	—0.1				1.0	0.7	0.8
Th	15	6:14	21:16		● S	15	6:37	22:24		E W	15	5:40	11:40	17:00
		1.3	—0.3				1.2	—0.1				0.9	0.6	0.8
N F	16	6:55	21:57		M	16	7:04	23:00		A Th	16	5:42	11:55	17:52
		1.3	—0.3				1.2	0.0				0.8	0.5	0.9
● S	17	7:32	22:36		Tu	17	7:14	23:36		F	17	0:10	6:08	12:05
		1.3	—0.2				1.1	0.1				0.4	0.8	0.4
S	18	8:00	23:10		W	18	7:20	13:30	16:56	S	18	1:03	5:55	12:25
		1.3	—0.2				1.0	0.7	0.8			0.5	0.7	0.8
M	19	8:14	23:45		Th	19	0:12	7:28	13:44	S	19	2:10	5:34	12:57
		1.3	—0.1				0.2	0.9	0.7			0.6	0.8	0.1
Tu	20	8:30			A E F	20	0:51	7:30	13:44	M	20	13:42	22:32	
		1.2					0.3	0.9	0.5			0.0	1.1	
W	21	0:18	8:45		S	21	1:52	7:46	14:07	Tu	21	14:35		
		0.0	1.1				0.5	0.8	0.4			—0.1		
Th	22	0:57	8:56	16:20	S	22	2:38	7:37	14:45	○ W	22	0:08	15:40	
		0.2	1.1	0.6			0.6	0.8	0.3			1.1	—0.1	
A E F	23	1:44	9:00	16:00	○ M	23	15:34			S Th	23	1:45	16:44	
		0.3	1.0	0.5			0.1					1.1	—0.1	
S	24	2:26	9:08	16:15	Tu	24	0:24	16:26		F	24	2:38	17:58	
		0.5	0.9	0.4			0.9	0.0				1.2	—0.1	
○ S	25	3:32	9:22	16:44	W	25	2:35	17:28		S	25	3:12	19:08	
		0.6	0.9	0.3			1.1	—0.1				1.1	—0.1	
M	26	9:06	17:25		Th	26	3:42	18:28		S	26	3:34	7:55	12:20
		0.9	0.1				1.2	—0.2				1.1	0.9	1.0
Tu	27	2:30	18:06		S F	27	4:42	19:30		M	27	3:50	8:45	14:00
		1.0	—0.1				1.2	—0.3				0.9	0.7	1.0
W	28	3:55	18:56		S	28	5:18	20:30		Tu	28	4:10	9:24	15:20
		1.2	—0.2				1.2	—0.3				0.8	0.6	1.1
Th	29	5:08	19:46		S	29	5:38	8:55	12:52	○ W	29	4:36	10:05	16:27
		1.3	—0.3				1.2	1.0	1.1			0.8	0.4	1.1
S	30	6:00	20:38		○ M	30	5:48	9:40	14:25	E Th	30	4:52	10:48	17:43
		1.3	—0.4				1.1	1.0	1.1			0.8	0.3	1.1
S	31	6:36	21:38		Tu	31	6:00	10:40	15:55					
		1.3	—0.4				1.0	0.7	1.0					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.												
MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.						W.	Mo.						W.	Mo.								
N	F	1	0:26	5:03	11:27	18:56	C	M	1	12:40	21:54		C	W	1	13:01	22:15							
			0.5	0.7	0.1	1.2				—0.2	1.3					—0.2	1.3							
	S	2	1:25	5:08	12:14	20:14		N	Tu	2	13:32	22:56				Th	2	13:45	22:47					
			0.6	0.7	0.0	1.2				—0.1	1.3					0.0	1.2							
	S	3	2:32	5:03	13:09	21:44			W	3	14:25	23:47				F	3	14:30	23:14					
			0.5	0.8	0.0	1.2				0.0	1.2					0.1	1.2							
	M	4	14:03	23:12					Th	4	15:19					S	4	15:30	23:36					
			—0.1	1.2						0.1						0.3	1.1							
	Tu	5	15:07						F	5	0:22	16:18				S	5	16:40	23:54					
			0.0							1.2	0.2					0.4	1.0							
	W	6	0:35	16:10					S	6	0:58	17:22				E	M	6	7:26	13:33	17:57			
			1.2	0.0						1.1	0.3					0.4	0.7	0.6						
A	Th	7	1:32	17:15			A	S	7	1:20	8:34	18:25	18:45	A	Tu	7	0:04	7:33	14:44	19:12				
			1.2	0.1					1.0	0.5	0.6	0.4				0.9	0.3	0.8	0.6					
	F	8	2:17	18:21				M	8	1:43	8:40	14:37	20:08			W	8	0:28	7:50	15:45	20:40			
			1.2	0.1					1.0	0.4	0.7	0.5				0.8	0.2	0.9	0.7					
	S	9	2:50	19:20				Tu	9	2:05	8:46	15:25	21:02			Th	9	0:05	8:07	16:40				
			1.1	0.2					0.9	0.4	0.8	0.5				0.8	0.1	1.1						
	S	10	3:14	9:45	14:01	20:16			W	10	2:21	9:00	16:12		22:01		F	10	8:27	17:30				
			1.1	0.6	0.7	0.3				0.8	0.3	0.9	0.6				0.0	1.2						
	M	11	3:30	9:55	15:08	21:08			Th	11	2:07	9:15	17:02				S	11	8:57	18:22				
			1.0	0.5	0.7	0.3				0.7	0.2	1.0					—0.2	1.3						
	Tu	12	3:41	10:01	16:02	22:13		●	F	12	9:31	17:53			●	S	12	9:30	19:14					
			0.9	0.5	0.8	0.4				0.1	1.1						—0.3	1.3						
E	W	13	4:13	10:27	16:38	22:55	S	S	13	9:57	18:43		S	M	13	10:13	20:12							
			0.8	0.5	0.9	0.4				—0.1	1.2					—0.3	1.3							
	Th	14	4:15	10:26	17:24	23:49			S	14	10:32	19:40				Tu	14	10:59	21:01					
			0.8	0.4	1.0	0.5				—0.2	1.3					—0.4	1.4							
	F	15	4:00	10:42	18:15				M	15	11:08	20:41				W	15	11:40	21:17					
			0.7	0.4	1.1					—0.3	1.3					—0.4	1.4							
	S	16	0:41	3:34	11:01	19:11			Tu	16	11:53	21:40				Th	16	12:33	21:48					
			0.6	0.7	0.1	1.1				—0.3	1.3						—0.3	1.3						
	S	17	11:36	20:15					W	17	12:42	22:23				F	17	13:28	22:09					
			0.6	1.2						—0.3	1.3						—0.2	1.1						
	M	18	12:16	21:21					Th	18	13:38	23:06				S	18	14:25	22:24					
			—0.1	1.2						—0.2	1.2						—0.0	1.0						
S	Tu	19	13:04	22:35			D	F	19	14:41	23:34		D	S	19	15:30	22:36							
			—0.2	1.2					—0.1	1.1						0.2	1.0							
	W	20	14:00	23:43					S	20	15:50	23:55				E	M	20	5:00	11:14	17:00	23:01		
			—0.2	1.2						0.1	1.0					0.5	0.8	0.5	0.8					
	Th	21	15:05						S	21	17:03					Tu	21	5:40	12:49	18:22	23:05			
			—0.1							0.2							0.3	0.9	0.6	0.8				
	F	22	0:35	16:15					M	22	0:10	6:30		12:32	18:42		W	22	6:30	14:44	19:25	22:56		
			1.2	—0.1						0.9	0.5	0.8		0.4			0.1	1.0	0.8	0.9				
	S	23	1:12	17:28				E	Tu	23	0:43	6:55		13:48	19:55	P	Th	23	7:18	16:14				
			1.1	0.0						0.9	0.4	0.9		0.5				—0.1	1.1					
	S	24	1:34	7:11	11:24	18:45			W	24	0:48	7:38		15:17	21:13		F	24	8:06	17:26				
			1.0	0.7	0.5	0.1				0.8	0.1	1.1		0.7				—0.2	1.3					
P	M	25	1:55	7:42	13:20	19:57	P	Th	25	0:48	8:22	16:36	22:15		S	25	8:55	18:34						
			0.9	0.6	0.9	0.2				0.8	0.0	1.2	0.8			—0.3	1.3							
	Tu	26	2:22	8:18	14:32	21:05			F	26	0:42	9:08	17:48			S	26	9:44	19:26					
			0.8	0.5	1.0	0.3				0.9	—0.2	1.3				—0.4	1.4							
	W	27	2:46	8:51	15:52	22:25		○	S	27	9:55	19:00			N	M	27	10:29	20:07					
			0.8	0.3	1.1	0.5				—0.3	1.4					—0.4	1.4							
	Th	28	2:53	9:26	17:05	23:29			S	28	10:42	20:11				Tu	28	10:18	20:43					
			0.7	0.1	1.2	0.6				—0.3	1.4					—0.3	1.3							
	F	29	3:00	10:14	18:16			N	M	29	11:23	21:05				W	29	11:55	21:02					
			0.7	—0.1	1.3					—0.3	1.4					—0.2	1.3							
	S	30	11:00	19:27					Tu	30	12:18	21:43				Th	30	12:33	21:21					
			—0.2	1.3						—0.3	1.3						—0.1	1.2						
S	31	11:50	20:40											F	31	13:11	21:41							
		—0.2	1.3												—0.0	1.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 0.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central Standard, 90th meridian W.; ^{0h} is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

◐, new moon; ◑, 1st quar.; ◒, full moon; ◓, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	2:15	8:58	14:32	19:30	2.7	0.5	1.2	-0.1	N	M	1	4:10	10:18	16:18	22:22	2.2	0.6	1.8	0.1	N	M	1	2:48	8:27	14:45	21:02	2.1	0.6	1.9	0.0
	S	2	3:20	10:04	15:40	20:50	2.7	0.5	1.3	0.0		Tu	2	5:09	11:05	17:17	23:40	2.0	0.5	1.9	0.1		Tu	2	3:48	9:23	15:52	22:28	1.8	0.7	2.0	0.1
	S	3	4:25	10:58	16:40	22:15	2.5	0.4	1.5	0.1		W	3	6:02	11:45	18:14	24:44	1.7	0.5	2.1	0.1		W	3	4:48	10:15	16:55	23:54	1.6	0.6	2.1	0.0
	M	4	5:25	11:42	17:40	23:32	2.3	0.4	1.8	0.1		Th	4	6:53	12:48	19:06	25:56	0.2	1.5	0.4	2.3		Th	4	5:42	10:56	17:52	24:44	1.4	0.5	2.3	0.1
	Tu	5	6:18	12:20	18:30	24:44	2.1	0.3	2.0	0.1		F	5	7:00	13:00	19:54	26:54	0.2	1.4	0.3	2.4		F	5	1:11	6:28	11:33	18:47	0.2	1.3	0.4	2.4
	W	6	0:40	7:08	12:50	19:20	0.0	1.9	0.3	2.2		S	6	7:53	13:10	20:08	27:00	0.4	1.2	0.2	2.5		S	6	2:09	7:10	12:07	19:35	0.3	1.2	0.3	2.4
	Th	7	1:45	7:54	13:18	20:10	0.1	1.7	0.2	2.4		S	7	8:36	14:14	21:35	28:00	0.5	1.1	0.1	2.5		S	7	2:54	7:45	12:38	20:18	0.5	1.1	0.2	2.3
	F	8	2:45	8:30	13:40	20:55	0.2	1.4	0.2	2.5		M	8	9:04	14:12	21:00	29:00	0.6	1.1	0.0	2.4		M	8	3:17	8:18	13:08	20:57	0.7	1.1	0.1	2.3
	S	9	3:36	9:05	14:05	21:42	0.3	1.2	0.0	2.6		Tu	9	9:18	14:15	22:37	30:00	0.9	1.1	-0.1	2.3		Tu	9	3:20	8:43	13:41	21:50	0.8	1.1	0.1	2.2
	S	10	4:24	9:30	14:32	22:25	0.5	1.1	0.0	2.6		W	10	9:27	14:05	23:10	31:00	1.0	1.1	-0.1	2.1		W	10	3:19	8:48	14:17	22:02	0.9	1.2	0.0	2.1
A	M	11	5:04	9:40	15:00	23:08	0.7	1.0	-0.1	2.5	Th	11	9:34	14:02	23:38	32:00	1.0	1.2	-0.1	2.0	Th	11	3:23	8:37	14:57	22:27	0.8	1.3	0.0	2.0		
	Tu	12	5:30	9:35	15:35	23:48	0.8	1.0	-0.1	2.4	F	12	9:42	14:35	24:35	33:00	0.9	1.4	-0.1	1.9	F	12	3:40	9:03	15:38	22:47	0.7	1.5	0.0	1.8		
	W	13	5:52	9:25	16:10	24:25	1.0	1.1	-0.1	2.3	S	13	10:02	15:28	25:35	34:00	0.0	1.9	0.8	1.5	S	13	4:08	9:42	16:22	23:13	0.6	1.7	0.0	1.7		
	Th	14	6:27	6:10	16:40	25:02	2.2	1.1	1.2	0.0	S	14	10:36	16:10	26:40	35:00	0.36	1.8	1.0	1.34	S	14	4:44	10:32	17:12	23:48	0.5	1.8	0.0	1.7		
	F	15	1:05	6:36	16:30	17:40	2.1	1.0	1.1	0.0	M	15	1:18	6:59	12:45	19:22	1.18	0.6	1.6	0.1	M	15	5:28	11:26	18:07	24:18	0.4	1.9	0.0	1.6		
	S	16	1:40	7:10	11:40	18:38	1.9	0.9	1.2	0.1	Tu	16	2:12	7:55	14:07	20:32	2:12	7:55	14:07	20:32	Tu	16	6:02	6:17	12:28	19:08	0.32	6:17	12:28	19:08		
	S	17	2:24	7:57	13:10	19:43	1.8	0.8	1.3	0.2	W	17	3:13	8:54	15:39	21:43	3:13	8:54	15:39	21:43	W	17	1:31	7:12	13:44	20:17	1.31	7:12	13:44	20:17		
	M	18	3:10	8:48	14:52	20:52	1.8	0.6	1.4	0.3	Th	18	4:22	9:55	16:53	22:57	4:22	9:55	16:53	22:57	Th	18	2:40	8:12	15:09	21:32	2:40	8:12	15:09	21:32		
	Tu	19	4:02	9:42	16:20	22:15	1.8	0.4	1.7	0.2	F	19	5:21	10:53	17:56	24:00	5:21	10:53	17:56	24:00	F	19	3:55	9:16	16:28	22:45	3:55	9:16	16:28	22:45		
	S	W	20	4:56	10:36	17:27	23:13	1.8	0.2	2.0	0.1	S	20	6:04	11:47	18:55	25:00	6:04	11:47	18:55	25:00	S	20	5:04	10:19	17:37	23:53	5:04	10:19	17:37	23:53	
P	Th	21	5:48	11:28	18:22	24:00	1.8	0.0	2.2	0.1	S	21	1:08	7:18	12:42	19:54	1:08	7:18	12:42	19:54	S	21	6:08	11:22	18:38	24:18	6:08	11:22	18:38	24:18		
	F	22	6:18	6:40	12:17	19:16	0.1	1.7	-0.2	2.5	M	22	2:08	8:10	13:35	20:50	2:08	8:10	13:35	20:50	M	22	6:58	7:03	12:24	19:37	6:58	7:03	12:24	19:37		
	S	23	1:21	7:30	13:04	20:10	0.0	1.7	-0.3	2.8	Tu	23	3:06	9:00	14:28	21:45	3:06	9:00	14:28	21:45	Tu	23	1:54	7:53	13:21	20:32	1:54	7:53	13:21	20:32		
	S	24	2:20	8:27	13:52	21:03	0.0	1.6	-0.5	2.9	W	24	4:00	9:51	15:22	22:42	4:00	9:51	15:22	22:42	W	24	2:46	8:43	14:18	21:29	2:46	8:43	14:18	21:29		
	M	25	3:18	9:16	14:40	21:58	0.1	1.6	-0.6	3.0	Th	25	4:52	10:43	16:18	23:41	4:52	10:43	16:18	23:41	Th	25	3:33	9:33	15:17	22:25	3:33	9:33	15:17	22:25		
	Tu	26	4:17	10:17	15:31	22:55	0.1	1.5	-0.6	3.1	F	26	5:45	11:38	17:20	24:40	5:45	11:38	17:20	24:40	F	26	4:19	10:20	16:17	23:22	4:19	10:20	16:17	23:22		
	W	27	5:17	11:01	16:23	23:57	0.3	1.4	-0.6	3.0	S	27	6:42	12:38	18:26	25:46	6:42	12:38	18:26	25:46	S	27	5:05	11:14	17:18	24:18	5:05	11:14	17:18	24:18		
	Th	28	6:17	12:00	17:20	24:57	0.4	1.4	-0.5	3.1	S	28	1:46	7:32	13:38	19:40	1:46	7:32	13:38	19:40	S	28	6:21	5:50	12:12	18:26	6:21	5:50	12:12	18:26		
	F	29	6:58	7:19	13:03	18:22	2.8	0.4	1.4	-0.3																						
	S	30	7:02	8:22	14:08	19:34	2.6	0.6	1.5	-0.1																						
S	31	8:08	9:23	15:13	20:58	2.4	0.6	1.6	0.0																							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Watersprings, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Buenos Ayres Mean Local Civil 58° 22' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A	Th	1	4:20 1.1	9:00 0.7	16:27 2.3					S	1	0:18 0.4	4:37 1.0	8:36 0.5	16:56 2.3			Tu	1	0:12 0.7	5:22 1.1	9:48 0.5	17:45 1.9						
	F	2	0:12 0.2	5:15 1.0	9:52 0.6	17:27 2.3			E	S	2	1:12 0.5	5:27 1.0	9:38 0.5	17:46 2.2			W	2	0:00 0.7	6:00 1.2	10:54 0.5	18:25 1.8						
	S	3	1:17 0.3	6:02 1.0	10:40 0.5	18:20 2.3			M	3	1:32 0.6	6:07 1.0	10:37 0.5	18:31 2.1			Th	3	0:02 0.6	6:38 1.4	11:50 0.4	18:55 1.7							
	S	4	2:05 0.4	6:43 1.0	11:25 0.4	19:07 2.3			Tu	4	1:28 0.7	6:44 1.1	11:30 0.4	19:08 2.0			F	4	0:25 0.4	7:12 1.7	12:44 0.3	19:25 1.7							
	M	5	2:28 0.6	7:18 1.1	12:05 0.3	19:48 2.2			W	5	1:18 0.7	7:17 1.3	12:20 0.4	19:40 1.9			S	5	0:55 0.2	7:48 2.0	13:30 0.2	19:55 1.7							
E	Tu	6	2:26 0.7	7:50 1.2	12:45 0.2	20:23 2.1			Th	6	1:20 0.6	7:43 1.5	13:05 0.3	20:10 1.8			S	6	1:30 0.1	8:25 2.2	14:20 0.2	20:28 1.6							
	W	7	2:21 0.8	8:12 1.2	13:25 0.2	20:53 2.0			F	7	1:35 0.4	8:10 1.7	13:48 0.2	20:34 1.7			M	7	2:10 -0.1	9:02 2.4	15:10 0.2	21:05 1.5							
	Th	8	2:22 0.7	8:25 1.3	14:03 0.1	21:19 1.9			S	8	2:00 0.3	8:38 1.9	14:32 0.1	20:58 1.7			Tu	8	2:48 -0.3	9:50 2.6	16:00 0.3	21:54 1.4							
	F	9	2:37 0.6	8:38 1.5	14:43 0.1	21:40 1.8			S	9	2:32 0.2	9:09 2.1	15:17 0.1	21:28 1.6			W	9	3:27 -0.3	10:36 2.7	16:56 0.3	22:45 1.2							
	S	10	3:02 0.4	9:05 1.8	15:27 0.0	22:03 1.7			M	10	3:08 0.1	9:47 2.3	16:06 0.1	22:06 1.5			Th	10	4:12 -0.3	11:32 2.7	17:55 0.4	23:40 1.1							
N	S	11	3:34 0.3	9:44 2.0	16:12 0.1	22:32 1.6			Tu	11	3:47 -0.1	10:32 2.4	16:58 0.2	22:47 1.3			F	11	5:00 -0.4	12:35 2.7	19:00 0.5	24:00 1.1							
	M	12	4:14 0.2	10:32 2.1	17:03 0.1	23:12 1.5			W	12	4:30 -0.1	11:25 2.5	17:57 0.3	23:37 1.2			S	12	0:50 1.0	5:55 -0.3	13:44 2.7	20:15 0.5							
	Tu	13	4:55 0.1	11:22 2.2	17:58 0.1	23:59 1.4			Th	13	5:17 -0.1	12:29 2.5	19:02 0.4	24:00 1.2			S	13	2:05 1.0	6:58 -0.2	14:54 2.7	21:35 0.5							
	W	14	5:43 0.1	12:23 2.3	19:02 0.2			F	14	0:45 1.1	6:08 -0.1	13:37 2.6	20:13 0.4			M	14	3:20 1.0	8:10 -0.1	16:00 2.6	22:36 0.4								
	Th	15	0:59 1.2	6:36 0.1	13:37 2.4	20:13 0.3			S	15	2:20 1.0	7:08 -0.1	14:53 2.6	21:27 0.4			Tu	15	4:24 1.2	9:27 0.0	17:00 2.5	23:28 0.4							
P	F	16	2:13 1.2	7:35 0.0	14:57 2.5	21:27 0.3			S	16	3:36 1.0	8:20 -0.1	16:06 2.6	22:38 0.3			W	16	5:22 1.4	10:46 0.0	18:00 2.4								
	S	17	3:40 1.2	8:40 0.0	16:13 2.6	22:39 0.3			M	17	4:42 1.1	9:35 -0.1	17:10 2.7	23:40 0.3			Th	17	0:10 0.3	6:15 1.7	12:00 -0.1	18:55 2.3							
	S	18	4:57 1.3	9:52 -0.1	17:22 2.7	23:45 0.2			Tu	18	5:40 1.4	10:50 -0.1	18:12 2.7			F	18	0:50 0.2	7:06 2.0	13:07 -0.1	19:45 2.1								
	M	19	5:53 1.4	11:02 -0.2	18:23 2.8			W	19	0:32 0.2	6:32 1.7	12:00 -0.2	19:07 2.6			S	19	1:25 0.1	7:55 2.3	14:10 -0.1	20:30 1.8								
	Tu	20	0:45 0.2	6:48 1.6	12:08 -0.3	19:22 2.8			Th	20	1:15 0.1	7:30 2.0	13:07 -0.3	20:00 2.4			S	20	2:00 0.0	8:46 2.6	15:10 0.0	21:15 1.6							
A	W	21	1:37 0.1	7:38 1.8	13:12 -0.4	20:16 2.8			F	21	1:55 0.1	8:10 2.3	14:10 -0.3	20:53 2.3			M	21	2:30 -0.1	9:35 2.7	16:08 0.2	22:00 1.3							
	Th	22	2:22 0.1	8:24 2.0	14:12 -0.5	21:10 2.6			S	22	2:30 0.1	9:00 2.5	15:10 -0.2	21:42 2.0			Tu	22	2:58 -0.1	10:25 2.8	17:06 0.4	22:42 1.1							
	F	23	3:02 0.1	9:13 2.2	15:13 -0.5	22:04 2.4			S	23	3:05 0.1	9:50 2.6	16:08 -0.1	22:30 1.7			W	23	3:30 -0.2	11:15 2.7	18:05 0.6	23:24 1.0							
	S	24	3:43 0.1	10:03 2.4	16:12 -0.4	23:00 2.1			M	24	3:40 0.1	10:40 2.7	17:10 0.1	23:18 1.4			Th	24	4:00 -0.2	12:06 2.6	19:08 0.8								
	S	25	4:23 0.2	10:57 2.5	17:14 -0.3	23:52 1.8			Tu	25	4:10 0.1	11:35 2.7	18:18 0.3			F	25	0:00 0.9	4:38 -0.1	12:57 2.5	20:16 0.8								
D	M	26	5:00 0.3	11:52 2.5	18:21 -0.1			W	26	0:06 1.1	4:43 0.1	12:30 2.6	19:33 0.4			S	26	0:35 0.9	5:15 0.0	13:50 2.3	21:10 0.8								
	Tu	27	0:48 1.5	5:37 0.3	12:52 2.5	19:35 0.1			Th	27	1:00 1.0	5:15 0.2	13:26 2.5	21:14 0.5			S	27	1:20 0.9	6:00 0.1	14:40 2.1	21:40 0.9							
	W	28	1:45 1.2	6:18 -0.4	13:54 2.4	21:12 0.3			F	28	1:55 0.9	5:55 0.2	14:25 2.4	23:10 0.6			M	28	2:20 1.0	6:50 0.3	15:30 2.0	21:45 0.9							
	Th	29	2:43 1.0	6:58 0.5	14:57 2.4	22:57 0.4			S	29	2:50 0.8	6:40 0.3	15:20 2.3			Tu	29	3:20 1.0	7:55 0.4	16:10 1.8	21:54 0.8								
	F	30	3:40 1.0	7:42 0.4	15:58 2.3			S	30	0:15 0.7	3:45 0.9	7:32 0.4	16:16 2.2			W	30	4:20 1.1	9:05 0.4	16:50 1.7	22:24 0.6								
								M	31	0:25 0.7	4:40 1.0	8:36 0.5	17:04 2.0																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Buenos Ayres Mean Local Civil 58° 22' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
S	Th	1	5:08 1.3	10:15 0.4	17:30 1.7	22:58 0.4			○	S	1	6:02 2.1	11:55 0.3	18:12 1.7	23:50 -0.1			P	W	1	0:13 -0.3	7:27 2.8	13:38 0.1	19:42 1.6					
	F	2	5:55 1.6	11:20 0.3	18:05 1.7	23:40 0.3				M	2	6:54 2.4	12:55 0.3	19:02 1.7			E	Th	2	1:08 -0.5	8:22 2.9	14:34 0.1	20:31 1.7						
	S	3	6:36 1.9	12:17 0.3	18:45 1.7					Tu	3	0:37 -0.3	7:45 2.6	13:53 0.2	19:55 1.7			F	3	2:02 -0.6	9:17 3.0	15:27 0.2	21:21 1.8						
	S	4	0:22 0.1	7:22 2.2	13:14 0.2	19:25 1.6			P	W	4	1:26 -0.5	8:38 2.8	14:49 0.2	20:45 1.7			S	4	2:57 -0.8	10:12 3.0	16:18 0.2	22:13 1.8						
	M	5	1:05 -0.1	8:07 2.5	14:07 0.2	20:10 1.6			E	Th	5	2:15 -0.6	9:31 2.9	15:46 0.3	21:35 1.7			S	5	3:52 -0.7	11:10 2.8	17:07 0.3	23:03 1.9						
P	Tu	6	1:48 -0.3	8:55 2.7	15:00 0.2	21:00 1.6				F	6	3:05 -0.7	10:26 3.0	16:42 0.4	22:26 1.6			☾	M	6	4:52 -0.6	12:08 2.6	17:58 0.4	23:58 1.9					
	W	7	2:30 -0.4	9:45 2.8	15:55 0.3	21:45 1.5				S	7	3:57 -0.7	11:24 2.9	17:37 0.5	23:22 1.6				Tu	7	5:57 -0.4	13:12 2.3	18:50 0.5						
	Th	8	3:14 -0.5	10:38 2.9	16:54 0.4	22:38 1.3			☾	S	8	4:52 -0.6	12:25 2.7	18:35 0.6			N	W	8	1:02 2.0	7:07 -0.3	14:17 2.1	19:43 0.6						
	F	9	4:00 -0.6	11:34 2.9	17:54 0.5	23:34 1.1				M	9	0:22 1.5	5:50 -0.5	13:28 2.6	19:34 0.7				Th	9	2:08 2.0	8:27 -0.1	15:20 1.8	20:40 0.6					
	☾	S	10	4:55 -0.5	12:35 2.8	19:00 0.6				Tu	10	1:25 1.6	6:59 -0.3	14:33 2.4	20:33 0.6				F	10	3:17 2.1	9:52 0.0	16:18 1.6	21:35 0.6					
N	S	11	0:38 1.0	5:50 -0.4	13:40 2.7	20:05 0.6				W	11	2:30 1.6	8:18 -0.1	15:38 2.1	21:30 0.6				S	11	4:23 2.2	11:20 0.1	17:15 1.4	22:25 0.5					
	M	12	1:50 1.0	6:56 -0.2	14:45 2.6	21:12 0.6			N	Th	12	3:38 1.7	9:42 0.0	16:40 1.9	22:23 0.5				S	12	5:25 2.4	12:40 0.1	18:06 1.3	23:11 0.4					
	Tu	13	3:00 1.2	8:08 -0.1	15:50 2.4	22:10 0.5				F	13	4:43 1.9	11:05 0.1	17:34 1.8	23:10 0.4				M	13	6:22 2.4	13:45 0.2	18:52 1.2	23:52 0.3					
	W	14	4:00 1.5	9:33 0.0	16:54 2.2	23:00 0.5				S	14	5:43 2.2	12:20 0.2	18:23 1.6	23:50 0.3			●	Tu	14	7:15 2.5	14:34 0.3	19:32 1.2						
	Th	15	5:05 1.8	10:55 0.0	17:50 2.1	23:45 0.4			●	S	15	6:38 2.4	13:32 0.3	19:13 1.4					W	15	8:32 0.3	15:02 2.4	19:58 0.5	20:06 1.2					
A	F	16	6:00 2.1	12:08 0.0	18:40 1.9					M	16	0:24 0.2	7:31 2.5	14:28 0.3	19:53 1.3			E	Th	16	1:08 0.2	8:45 2.3	15:23 0.7	20:38 1.2					
	●	S	0:28 0.3	6:54 2.3	13:15 0.1	19:28 1.7				Tu	17	0:57 0.1	8:20 2.6	15:17 0.4	20:30 1.2			A	F	17	1:40 0.1	9:24 2.2	15:25 0.8	21:02 1.3					
	S	18	0:55 0.2	7:45 2.5	14:15 0.2	20:12 1.5				W	18	1:20 0.0	9:06 2.5	15:54 0.5	21:02 1.1				S	18	2:15 0.1	9:57 2.0	15:23 0.8	20:57 1.4					
	M	19	1:27 0.9	8:34 2.6	15:15 0.3	20:50 1.3			A	Th	19	2:02 -0.1	9:48 2.4	16:18 0.6	21:33 1.0				S	19	2:52 0.9	10:25 1.9	15:30 0.8	21:01 1.5					
	Tu	20	1:55 -0.1	9:22 2.7	16:05 0.5	21:30 1.1			E	F	20	2:33 -0.1	10:30 2.3	16:29 0.8	21:40 1.0				M	20	3:30 0.0	10:45 1.7	15:50 0.6	21:33 1.6					
D	W	21	2:27 -0.2	10:10 2.7	16:50 0.7	22:05 1.0				S	21	3:08 -0.1	11:06 2.1	16:35 0.9	21:48 1.1				Tu	21	4:10 0.1	10:58 1.6	16:20 0.5	22:15 1.8					
	Th	22	3:00 -0.2	10:55 2.6	17:30 0.7	22:35 1.0				S	22	3:46 -0.1	11:40 1.9	16:46 1.0	21:40 1.3			☾	W	22	4:55 0.1	11:21 1.5	16:59 0.4	23:05 1.9					
	F	23	3:20 -0.2	11:40 2.4	17:58 0.8	22:28 1.0				M	23	4:28 0.0	12:07 1.8	17:10 0.9	22:32 1.5			S	Th	23	5:46 0.1	11:52 1.5	17:45 0.3						
	S	24	4:06 -0.2	12:22 2.2	18:12 0.9	21:45 1.1			☾	Tu	24	5:13 0.1	12:30 1.7	17:45 0.7	23:13 1.5				F	24	0:02 2.0	6:43 0.2	12:42 1.4	18:37 0.2					
	S	25	4:48 -0.1	13:05 2.1	18:35 0.9	22:20 1.1				W	25	6:02 0.2	13:56 1.6	18:28 0.6					S	25	1:08 2.1	7:47 0.2	13:47 1.3	19:35 0.2					
S	M	26	5:32 0.1	13:45 1.9	19:00 1.0	23:22 1.1				Th	26	0:18 1.6	7:00 0.2	13:38 1.5	19:22 0.5				S	26	2:30 2.2	8:58 0.3	15:02 1.3	20:38 0.1					
	Tu	27	6:25 0.2	14:25 1.8	19:35 0.9				S	F	27	1:35 1.7	8:05 0.3	14:36 1.5	20:19 0.4				M	27	3:52 2.3	10:10 0.3	16:23 1.3	21:42 0.0					
	W	28	0:40 1.2	7:25 0.3	15:00 1.7	20:22 0.7				S	28	3:02 1.9	9:15 0.3	15:42 1.5	21:19 0.2				Tu	28	5:03 2.5	11:20 0.2	17:31 1.4	22:49 -0.2					
	Th	29	2:20 1.4	8:30 0.4	15:47 1.6	21:12 0.5				S	29	4:22 2.1	10:26 0.3	16:46 1.5	22:20 0.1			☾	W	29	6:07 2.7	12:23 0.1	18:33 1.6	23:53 -0.3					
	F	30	4:00 1.6	9:40 0.3	16:35 1.6	22:07 0.4				M	30	5:30 2.3	11:35 0.2	17:46 1.5	23:17 -0.1			☾	Th	30	7:08 2.8	13:22 0.1	19:25 1.7						
	S	31	5:05 1.8	10:50 0.3	17:25 1.7	23:00 0.2			○	Tu	31	6:29 2.6	12:38 0.2	18:48 1.6															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings in the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Buenos Ayres Mean Local Civil 58° 22' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quart.; ○, full moon; ☾, 3d quart.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N	F	1	0:52	8:04	14:14	20:15				M	1	2:46	9:35	15:15	21:37				W	1	3:42	10:06	15:18	22:18					
			—0.5	2.9	0.0	1.9						—0.5	2.4	0.0	2.5						—0.3	1.7	0.0	2.8					
	S	2	1:51	9:00	15:02	21:02				N	Tu	2	3:45	10:28	15:55	22:30			Th	2	4:44	10:50	15:55	23:12					
			—0.6	2.9	0.1	2.1						—0.5	2.2	0.1	2.6						—0.1	1.5	0.0	2.8					
	S	3	2:50	9:55	15:48	21:52				W	3	4:48	11:24	16:36	23:26			F	3	5:50	11:40	16:30							
C			—0.6	2.7	0.1	2.2						—0.4	1.8	0.2	2.6						0.1	1.2	0.0						
	M	4	3:50	10:51	16:32	22:45			C	Th	4	5:54	12:18	17:15			C	S	4	6:08	12:04	12:35	17:08						
			—0.6	2.5	0.2	2.3						—0.2	1.5	0.2					2.8	0.3	1.0	0.1							
	Tu	5	4:52	11:48	17:17	23:42				F	5	6:27	13:14	17:55			S	5	1:08	8:30	13:30	17:50							
			—0.5	2.2	0.3	2.3						2.6	0.0	1.2	0.3				2.7	0.5	1.0	0.1							
E	W	6	5:57	12:50	18:01				S	6	1:28	8:36	14:15	18:38			E	M	6	2:05	10:20	14:30	18:35						
			—0.4	1.9	0.4						2.6	0.3	1.0	0.3					2.6	0.5	0.9	0.2							
	Th	7	6:43	7:09	13:50	18:50			S	7	2:33	10:16	15:16	19:27			A	Tu	7	3:08	11:40	15:28	19:30						
			2.4	—0.2	1.6	0.5						2.6	0.3	0.9	0.4					2.4	0.6	0.9	0.3						
	F	8	1:48	8:30	14:51	19:38			M	8	3:35	11:45	16:12	20:25			W	8	4:04	12:20	16:20	20:30							
A			2.4	0.0	1.3	0.5					2.5	0.3	0.9	0.5					2.2	0.7	1.0	0.5							
	S	9	2:55	10:05	15:52	20:32			A	Tu	9	4:36	12:47	17:03	21:32			Th	9	4:55	12:30	17:12	21:44						
			2.4	0.1	1.2	0.5						2.4	0.4	1.0	0.5					2.1	0.7	1.1	0.5						
	S	10	4:00	11:38	16:50	21:29			W	10	5:32	13:27	17:50	22:33			F	10	5:40	12:23	17:55	22:48							
			2.4	0.2	1.1	0.5						2.3	0.4	1.1	0.5					1.9	0.7	1.3	0.6						
E	M	11	5:02	12:50	17:43	22:25			Th	11	6:20	13:40	18:36	23:31			S	11	6:18	12:12	18:35	23:43							
			2.4	0.2	1.0	0.5						2.1	0.6	1.2	0.5					1.7	0.6	1.5	0.5						
	Tu	12	6:00	13:44	18:28	23:18			F	12	7:03	13:30	19:13			S	12	6:50	12:15	19:08									
			2.4	0.3	1.1	0.4						2.0	0.6	1.4					1.6	0.5	1.7								
	W	13	6:52	14:22	19:05				S	13	7:08	13:37	18:23	19:42			M	13	7:04	12:38		19.40							
●			2.3	0.5	1.2						0.4	1.8	0.6	1.6					0.4	1.6	0.3	1.9							
	Th	14	7:04	7:37	14:33	19:43			S	14	8:01	14:05	19:27	20:09			S	Tu	14	1:20	7:40	13:10	20:15						
			0.4	2.2	0.6	1.3					0.4	1.7	0.5	1.7					0.4	1.5	0.1	2.1							
	F	15	8:45	8:16	14:30	20:13			M	15	1:42	8:27	13:43	20:33			W	15	2:04	8:00	13:45	20:50							
			0.3	2.1	0.7	1.4					0.3	1.6	0.4	1.9					0.3	1.5	0.0	2.3							
S	S	16	1:23	8:48	14:25	20:32			S	Tu	16	2:20	8:43	14:10	21:00			Th	16	2:50	8:40	14:23	21:30						
			0.3	2.0	0.7	1.5					0.3	1.5	0.2	2.1					0.3	1.4	—0.2	2.5							
	S	17	2:00	9:15	14:27	20:48			W	17	3:02	8:58	14:45	21:32			F	17	3:36	9:15	15:00	22:15							
			0.2	1.8	0.6	1.6					0.2	1.5	0.0	2.3					0.8	1.4	—0.3	2.6							
	M	18	2:36	9:33	14:44	21:03			Th	18	3:45	9:27	15:22	22:12			S	18	4:25	10:00	15:45	23:05							
S			0.2	1.7	0.5	1.8					0.2	1.4	—0.1	2.4					0.4	1.3	—0.4	2.7							
	Tu	19	3:15	9:45	15:12	21:33			F	19	4:33	10:05	16:02	22:59			S	19	5:22	10:48	16:32								
			0.1	1.6	0.3	2.0					0.3	1.3	—0.2	2.5					0.4	1.2	—0.4								
	W	20	3:56	10:03	15:46	22:10			S	20	5:25	10:51	16:46	23:55			E	M	20	6:00	6:20	11:45	17:24						
			0.1	1.5	0.2	2.1					0.3	1.2	—0.2	2.5					2.7	0.5	1.1	—0.3							
D	Th	21	4:42	10:30	16:27	22:57			S	21	6:26	11:47	17:36			Tu	21	1:05	7:26	13:00	18:25								
			0.2	1.4	0.1	2.2					0.4	1.1	—0.2					2.6	0.5	1.1	—0.2								
	F	22	5:34	11:10	17:12	23:53			M	22	1:00	7:30	13:03	18:33			W	22	2:14	8:35	14:25	19:30							
			0.2	1.3	0.0	2.3					2.5	0.5	1.0	—0.1					2.6	0.5	1.1	—0.1							
	S	23	6:32	12:00	18:02				E	Tu	23	2:10	8:40	14:42	19:40			P	Th	23	3:20	9:45	15:40	20:48					
P			0.3	1.2	0.0						2.5	0.5	1.1	—0.1					2.5	0.5	1.3	—0.1							
	S	24	6:57	7:37	13:08	18:59			W	24	3:27	9:50	16:00	20:52			F	24	4:25	10:44	16:44	22:05							
			2.4	0.4	1.1	0.0					2.6	0.4	1.2	—0.1					2.4	0.4	1.5	—0.1							
	M	25	7:18	8:47	14:37	20:01			P	Th	25	4:35	10:57	17:02	22:10			S	25	5:25	11:33	17:42	23:24						
			2.4	0.4	1.1	0.0					2.6	0.3	1.4	—0.1					2.4	0.3	1.8	—0.1							
E	Tu	26	8:34	10:00	16:10	21:12			F	26	5:37	11:53	17:58	23:25			C	S	26	6:24	12:15	18:35							
			2.5	0.4	1.2	—0.1					2.6	0.2	1.7	—0.2					2.8	0.2	2.1								
	W	27	9:46	11:07	17:22	22:26			C	S	27	6:35	12:40	18:50			N	M	27	7:40	12:15	18:35	19:30						
			2.6	0.3	1.4	—0.1						2.5	0.1	2.0					—0.2	2.1	0.1	2.4							
	Th	28	10:50	12:08	18:15	23:35			S	28	7:35	13:24	19:40			Tu	28	1:40	8:05	13:30	20:20								
P			2.7	0.2	1.6	—0.3					—0.3	2.4	0.0	2.3					—0.2	1.9	0.0	2.6							
	F	29	6:50	13:03	19:08			N	M	29	1:38	8:22	14:02	20:32			W	29	2:40	8:50	14:10	21:12							
			2.7	0.1	1.9						—0.4	2.3	0.0	2.5					—0.1	1.7	—0.1	2.8							
	S	30	7:40	13:50	19:56			Tu	30	2:40	9:14	14:42	21:24			Th	30	3:42	9:36	14:45	22:04								
			—0.4	2.7	0.0	2.1					—0.3	2.0	0.0	2.7					0.0	1.5	—0.2	2.9							
P	S	31	1:43	8:40	14:33	20:45											F	31	4:40	10:20	15:20	22:56							
			—0.5	2.6	0.0	2.3													0.2	1.3	—0.2	2.9							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Buenos Ayres, Mean Local Civil; 58° 22' W; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N	F	1	5:20	11:36	17:44	23:56				M	1	0:22	7:19	13:38	19:04				N	M	1	6:00	12:22	17:47					
			0.5	4.2	0.6	4.8						5.2	—0.3	3.5	1.2							—0.3	3.5	1.3					
	S	2	6:25	12:45	18:35				N	Tu	2	1:15	8:17	14:35	19:54				Tu	2	0:00	7:00	13:25	18:44					
			0.2	4.0	0.7							5.3	—0.4	3.4	1.3							5.1	—0.3	3.4	1.4				
	S	3	0:45	7:32	13:50	19:26				W	3	2:06	9:10	15:30	20:45				W	3	0:54	7:55	14:18	19:38					
O			5.1	—0.2	3.7	1.0						5.4	—0.5	3.3	1.3							5.1	—0.4	3.4	1.4				
	M	4	1:38	8:30	14:50	20:15			Th	4	2:55	9:57	16:15	21:33				Th	4	1:45	8:44	15:04	20:28						
			5.3	—0.4	3.6	1.1						5.4	—0.5	3.4	1.4							5.1	—0.4	3.5	1.3				
	Tu	5	2:28	9:25	15:44	21:05			○	F	5	3:42	10:40	17:00	22:20				F	5	2:34	9:27	15:45	21:16					
			5.5	—0.6	3.5	1.2						5.3	—0.5	3.5	1.4							5.0	—0.3	3.6	1.3				
A	W	6	3:16	10:16	16:37	21:52			S	6	4:25	11:20	17:37	23:05				○	S	6	3:18	10:05	16:22	22:02					
			5.6	—0.8	3.4	1.2						5.1	—0.3	3.5	1.4							4.9	—0.1	3.7	1.3				
	Th	7	4:02	11:04	17:24	22:40			S	7	5:08	11:55	18:15	23:50				A	S	7	4:04	10:38	16:57	22:45					
			5.6	—0.8	3.5	1.4						4.9	—0.1	3.6	1.4							4.7	0.1	3.8	1.2				
	F	8	4:45	11:48	18:10	23:10			A	M	8	5:50	12:30	18:50				M	8	4:48	11:12	17:30	23:25						
E			5.5	—0.7	3.5	1.5						4.6	0.1	3.7								4.5	0.3	3.9	1.2				
	S	9	5:30	12:30	18:50				E	Tu	9	0:32	6:34	13:00	19:24				E	Tu	9	5:30	11:42	18:00					
			5.2	0.5	3.6							1.5	4.3	0.3	3.8							4.3	0.5	4.0					
	S	10	0:12	6:12	13:15	19:33			W	10	1:16	7:18	13:28	19:52				W	10	0:06	6:12	12:14	18:26						
			1.5	5.0	—0.3	3.5						1.4	4.0	0.6	3.9							1.1	4.0	0.8	4.0				
C	M	11	0:55	7:00	13:48	20:12			Th	11	2:00	8:04	14:04	20:25				Th	11	0:40	6:48	12:50	19:02						
			1.6	4.6	0.0	3.6						1.3	3.7	0.8	3.9							1.0	3.8	1.0	4.0				
	Tu	12	1:45	7:40	14:17	20:50			F	12	2:38	8:46	14:42	21:04				F	12	1:22	7:33	13:25	19:36						
			1.7	4.3	0.2	3.7						1.2	3.5	1.1	4.1							0.8	3.6	1.2	4.2				
	W	13	2:34	8:32	14:50	21:22			○	S	13	3:30	9:40	15:24	21:48				S	13	2:12	8:26	14:00	20:18					
S			1.6	3.9	0.6	3.8						1.0	3.3	1.2	4.4							0.7	3.4	1.4	4.3				
	Th	14	3:24	9:20	15:24	21:55			S	14	4:28	10:44	16:06	22:36				○	S	14	3:08	9:25	14:42	21:06					
			1.5	3.6	0.8	4.0						0.7	3.2	1.3	4.6							0.6	3.2	1.5	4.6				
	F	15	4:08	10:14	16:05	22:35			M	15	5:28	11:46	17:00	23:30				M	15	4:05	10:30	15:35	22:00						
			1.4	3.5	1.0	4.1						0.4	3.1	1.3	5.0							0.3	3.1	1.5	4.8				
N	S	16	5:00	11:10	16:54	23:20			Tu	16	6:27	12:48	17:56				S	Tu	16	5:05	11:30	16:34	23:00						
			1.1	3.3	1.1	4.4						0.0	3.2	1.3								0.1	3.1	1.5	5.0				
	S	17	6:00	12:10	17:40				S	W	17	0:25	7:24	13:42	18:58				W	17	6:00	12:25	17:40						
			0.8	3.2	1.2							5.3	—0.3	3.3	1.2							—0.2	3.2	1.4					
	M	18	0:08	6:55	13:12	18:30			Th	18	1:20	8:18	14:38	19:56				Th	18	0:00	6:58	13:20	18:44						
A			4.7	0.3	3.2	1.2						5.6	—0.7	3.5	1.1							5.3	—0.5	3.5	1.1				
	Tu	19	0:56	7:50	14:10	19:22			F	19	2:18	9:08	15:28	20:54				F	19	1:00	7:50	14:10	19:42						
			5.1	—0.1	3.3	1.2						5.8	—0.9	3.7	0.8							5.5	—0.6	3.8	0.8				
	W	20	1:50	8:45	15:04	20:16			●	S	20	3:10	10:00	16:16	21:50				S	20	1:58	8:40	14:57	20:42					
			5.5	—0.5	3.4	1.2						5.9	—1.0	4.0	0.6							5.7	—0.7	4.1	0.4				
E	Th	21	2:40	9:37	15:56	21:14			●	S	21	4:06	10:48	17:05	22:50			P	S	21	2:54	9:30	15:44	21:38					
			5.8	—0.9	3.5	1.0						6.0	—0.9	4.2	0.4							5.7	—0.7	4.5	0.1				
	F	22	3:30	10:26	16:46	22:05			E	M	22	5:00	11:37	17:52	23:47				E	M	22	3:50	10:17	16:30	22:34				
			5.9	—1.1	3.7	0.9						5.8	—0.8	4.5	0.2							5.7	—0.5	4.8	—0.1				
	S	23	4:25	11:15	17:37	23:02			Tu	23	5:58	12:24	18:36					Tu	23	4:48	11:04	17:15	23:26						
C			6.0	—1.2	3.8	0.8						5.5	—0.5	4.7								5.5	—0.3	4.9	—0.3				
	S	24	5:15	12:08	18:24				W	24	0:45	6:55	13:14	19:26				W	24	5:44	11:56	18:05							
			6.0	—1.1	4.0							0.1	5.2	—0.2	4.8							5.2	—0.1	5.0					
	M	25	0:00	6:10	12:55	19:14			Th	25	1:40	7:57	14:08	20:17				Th	25	0:22	6:42	12:45	18:54						
			0.7	5.8	—0.9	4.2						0.0	4.8	0.2	4.9							—0.4	4.8	0.3	5.2				
S	Tu	26	1:00	7:08	13:42	20:00			○	F	26	2:42	9:04	15:00	21:10				○	F	26	1:25	7:48	13:36	19:42				
			0.6	5.5	—0.6	4.4						—0.1	4.4	0.6	5.0							—0.5	4.4	0.7	5.2				
	W	27	2:00	8:08	14:32	20:50			S	27	3:50	10:10	15:55	22:05				S	27	1:28	8:50	14:30	20:37						
			0.5	5.1	—0.2	4.6						—0.2	4.0	0.9	5.1							—0.5	4.0	1.0	5.2				
	Th	28	3:04	9:14	15:25	21:42			●	S	28	4:55	11:16	16:50	23:02			●	S	28	3:32	9:58	15:28	21:36					
N			0.4	4.6	0.2	4.7						—0.2	3.7	1.1	5.1							—0.4	3.7	1.3	5.1				
	F	29	4:00	10:20	16:22	22:33			N	M	29	4:35	11:04	16:28	22:35				N	M	29	4:35	11:04	16:28	22:35				
			0.2	4.3	0.6	4.9						—0.4	3.5	1.4	5.0							—0.4	3.5	1.4	5.0				
	S	30	5:10	11:28	17:14	23:28			Tu	30	5:58	12:07	17:30	23:34				Tu	30	5:58	12:07	17:30	23:34						
			0.1	3.9	0.8	5.1						—0.3	3.5	1.5	4.9							—0.3	3.5	1.5	4.9				
A	S	31	6:18	12:34	18:10				W	31	6:34	13:03	18:30					W	31	6:34	13:03	18:30							
			—0.1	3.6	1.1							—0.3	3.5	1.4								—0.3	3.5	1.4					

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.								W.	Mo.											
A	Th	1	0:28	7:25	13:50	19:24				E	S	1	1:00	7:25	13:52	19:52			Tu	1	2:05	7:56	14:07	20:38								
			4.8	-0.2	3.6	1.3							4.3	0.2	4.1	1.1					3.7	0.8	4.6	0.4								
	F	2	1:22	8:08	14:32	20:12				S	2	1:50	8:01	14:24	20:33			W	2	2:48	8:28	14:40	21:20									
			-4.7	-0.1	-3.8	1.2								4.2	0.5	4.2	0.8					3.7	0.9	4.9	0.1							
	S	3	2:10	8:46	15:08	20:58				M	3	2:33	8:37	14:54	21:08			Th	3	3:33	9:02	15:17	22:00									
E			4.6	0.1	3.9	1.1							4.1	0.6	4.3	0.6					3.6	1.0	5.2	-0.1								
	S	4	3:00	9:20	15:40	21:40				Tu	4	3:17	9:15	15:22	21:43			F	4	4:18	9:37	15:53	22:45									
			4.5	0.2	4.0	1.0							4.0	0.7	4.5	0.4					3.6	1.1	5.3	-0.5								
	M	5	3:42	9:55	16:10	22:20				W	5	3:57	9:45	15:54	22:23			S	5	5:05	10:15	16:33	23:30									
			4.3	0.4	4.1	0.9						3.9	0.9	4.7	0.2					3.5	1.3	5.5	-0.6									
O	Tu	6	4:25	10:28	16:40	22:50				Th	6	4:40	10:16	16:26	23:05			S	6	5:52	10:55	17:17	...									
			4.1	0.6	4.2	0.7						3.8	1.1	4.8	0.0					3.4	1.4	5.5	...									
	W	7	5:02	11:03	17:10	23:28				F	7	5:23	10:47	17:01	23:50			M	7	0:18	6:43	11:42	18:00									
			4.0	0.8	4.3	0.6						3.6	1.2	4.9	-0.1					-0.7	3.3	1.4	5.4									
	Th	8	5:42	11:32	17:42	...				S	8	6:12	11:22	17:40	...			Tu	8	1:10	7:36	12:30	18:56									
S			3.8	1.1	4.4	...						3.4	1.4	5.0	...					-0.7	3.3	1.5	5.3									
	F	9	0:10	6:27	12:02	18:15				S	9	0:38	7:03	12:02	18:24			W	9	2:02	8:31	13:40	19:55									
			0.5	3.6	1.3	4.5						-0.2	3.2	1.5	5.0					-0.5	3.3	1.5	5.1									
	S	10	0:58	7:18	12:38	18:55				M	10	1:30	8:00	12:50	19:15			Th	10	2:55	9:28	14:52	21:00									
			0.3	3.3	1.5	4.5						-0.3	3.1	1.6	4.9					-0.4	3.5	1.5	4.8									
C	S	11	1:50	8:14	13:18	19:42				Tu	11	2:25	8:58	13:50	20:12			F	11	3:50	10:20	16:05	22:12									
			0.2	3.2	1.6	4.6						-0.3	3.0	1.8	4.9					-0.2	3.8	1.3	4.6									
	M	12	2:44	9:15	14:10	20:35				W	12	3:21	9:57	15:02	21:15			S	12	4:44	11:12	17:15	23:22									
			0.1	3.0	1.7	4.7						-0.3	3.2	1.7	4.9					0.0	4.2	0.9	4.4									
	Tu	13	3:33	10:17	15:13	21:36				Th	13	4:18	10:53	16:14	22:24			S	13	5:37	12:00	18:15	...									
P			-0.1	3.0	1.8	4.9						-0.3	3.5	1.5	4.8					0.3	4.5	0.4	...									
	W	14	4:43	11:14	16:23	22:38				F	14	5:13	11:45	17:23	23:31			M	14	0:28	6:36	12:48	19:13									
			-0.2	3.2	1.7	5.0						-0.2	3.8	1.2	4.8					4.3	0.4	4.9	-0.1									
	Th	15	5:40	12:08	17:32	23:42				S	15	6:05	12:30	18:28	...			Tu	15	1:30	7:24	13:35	20:16									
			-0.3	3.5	1.4	5.1						-0.2	4.2	0.7	...					4.3	0.5	5.3	-0.5									
E	F	16	6:32	12:57	18:34	...				S	16	0:36	6:54	13:15	19:25			W	16	2:28	8:10	14:22	21:04									
			-0.4	3.8	0.9	...						4.8	-0.1	4.7	0.2					4.2	0.6	5.7	-0.9									
	S	17	0:44	7:22	13:43	19:33				M	17	1:37	7:46	14:00	20:17			Th	17	3:23	8:55	15:08	21:37									
			5.2	-0.4	4.2	0.5						4.8	0.0	5.0	-0.2					4.1	0.7	5.9	-1.1									
	S	18	1:44	8:10	14:28	20:30				Tu	18	2:35	8:35	14:43	21:10			F	18	4:15	9:40	15:53	22:47									
O			5.3	-0.4	4.6	0.1						4.8	0.2	5.4	-0.7					3.9	0.8	6.0	-1.2									
	M	19	2:41	8:57	15:10	21:20				W	19	3:30	9:20	15:28	22:05			S	19	5:05	10:28	16:38	23:36									
			5.3	-0.3	4.9	-0.3						4.7	0.4	5.7	-1.0					3.7	1.0	5.9	-1.1									
	Tu	20	3:38	9:48	15:58	22:13				Th	20	4:25	10:04	16:13	22:58			S	20	5:56	11:14	17:25	...									
			5.2	-0.1	5.2	-0.6						4.4	0.6	5.8	-1.1					3.6	1.2	5.7	...									
S	W	21	4:34	10:35	16:43	23:10				F	21	5:18	10:50	17:00	23:52			M	21	0:25	6:47	12:03	18:12									
			5.0	0.2	5.4	-0.8						4.1	0.8	5.8	-1.1					-0.9	3.5	1.4	5.4									
	Th	22	5:32	11:22	17:28	...				S	22	6:15	11:39	17:48	...			Tu	22	1:13	7:38	12:57	19:02									
			4.7	0.5	5.5	...						3.8	1.1	5.7	...					-0.6	3.4	1.6	5.0									
	F	23	0:08	6:30	12:10	18:17				S	23	0:46	7:10	12:30	18:40			W	23	2:01	8:30	13:54	19:55									
C			-0.9	4.3	0.8	5.5						-0.9	3.6	1.3	5.5					-0.3	3.4	1.7	4.6									
	S	24	1:05	7:30	13:00	19:10				M	24	1:42	8:10	13:25	19:32			Th	24	2:47	9:22	14:55	20:52									
			-0.8	4.0	1.1	5.4						-0.7	3.5	1.6	5.1					0.0	3.5	1.8	4.1									
	S	25	2:05	8:33	13:58	20:05				Tu	25	2:38	9:10	14:28	20:28			F	25	3:33	10:12	16:02	21:54									
			-0.7	3.7	1.3	5.2						-0.5	3.4	1.8	4.7					0.4	3.7	1.8	3.8									
N	M	26	3:08	9:40	15:00	21:03				W	26	3:34	10:12	15:35	21:30			S	26	4:15	10:53	17:05	22:52									
			-0.5	3.5	1.5	5.0						-0.2	3.5	1.8	4.4					0.7	3.8	1.6	3.5									
	Tu	27	4:10	10:45	16:05	22:04				Th	27	4:25	11:05	16:43	22:35			S	27	4:57	11:33	17:55	23:50									
			-0.4	3.5	1.6	4.7						0.0	3.6	1.8	4.2					0.9	4.0	1.3	3.3									
	W	28	5:08	11:43	17:11	23:05				F	28	5:13	11:53	17:45	23:35			M	28	5:47	12:11	18:43	...									
A			-0.2	3.6	1.6	4.6						0.2	3.8	1.6	4.0					1.0	4.2	1.0	...									
	Th	29	6:00	12:34	18:12	...				S	29	5:57	12:31	18:38	...			Tu	29	0:45	6:32	12:48	19:28									
			-0.1	3.7	1.5	...						0.5	4.0	1.3	...					3.4	1.0	4.5	0.6									
	F	30	0:05	6:45	13:16	19:05				S	30	0:28	6:37	13:05	19:22			W	30	1:35	7:10	13:26	20:12									
			4.4	0.1	3.9	1.3				M	31	1:18	7:20	13:37	20:00					3.4	1.1	4.8	0.2									
											3.7	0.7	4.4	0.7																		

JULY.										AUGUST.										SEPTEMBER.													
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								
	W.	Mo.										W.	Mo.										W.	Mo.									
☾	Th	1	2:25	7:48	14:06	20:55	3.4	1.1	5.2	—0.2	☾	S	1	3:34	8:50	15:10	22:00	3.6	1.0	5.9	—1.0	P	W	1	4:36	10:23	16:35	23:05	4.4	0.2	5.9	—0.8	
	F	2	3:10	8:28	14:47	21:40	3.4	1.1	5.5	—0.6		M	2	4:19	9:40	15:57	22:47	3.7	0.8	6.1	—1.1	E	Th	2	5:20	11:17	17:27	23:50	4.7	—0.1	5.7	—0.6	
	S	3	3:57	9:10	15:28	22:24	3.5	1.1	5.7	—0.9	P	Tu	3	5:03	10:32	16:47	23:32	3.9	0.7	6.0	—1.0		F	3	6:02	12:10	18:20		4.9	—0.2	5.3		
	S	4	4:43	9:55	16:13	23:10	3.5	1.1	5.8	—1.0		W	4	5:50	11:25	17:37		4.1	0.6	5.8			S	4	6:36	12:47	18:32	19:20	—0.3	4.9	—0.2	4.9	
	M	5	5:29	10:41	17:00	23:58	3.5	1.1	5.8	—1.0	E	Th	5	0:18	6:35	12:20	18:32	—0.8	4.2	0.5	5.5			S	5	1:30	7:37	14:02	20:24	0.2	5.0	—0.2	4.4
☾	Tu	6	6:18	11:32	17:48		3.6	1.1	5.7			F	6	1:05	7:20	13:20	19:30	—0.5	4.3	0.5	5.0		☾	M	6	2:20	8:28	15:08	21:33	0.6	5.0	—0.2	3.9
	P W	7	0:45	7:08	12:27	18:43	—0.8	4.6	1.1	5.5		S	7	1:52	8:10	14:20	20:33	—0.1	4.5	0.5	4.5			Tu	7	3:15	9:27	16:18	22:46	1.0	5.0	—0.2	3.6
	Th	8	1:36	7:58	13:30	19:42	—0.6	3.7	1.1	5.1	☾	S	8	2:46	9:02	15:23	21:44	0.3	4.5	0.3	4.2	N	W	8	4:17	10:28	17:30		1.3	5.0	—0.2		
	E F	9	2:25	8:50	14:38	20:47	—0.3	3.9	1.1	4.7		M	9	3:48	9:59	16:36	23:01	0.7	4.7	0.2	3.8		Th	9	5:00	11:32	18:38		3.4	1.4	5.1	—0.3	
	☾ S	10	3:17	9:42	15:52	21:58	0.1	4.2	0.8	4.3		Tu	10	4:40	10:58	17:50		1.0	4.9	0.0			F	10	1:07	6:27	12:32	19:37	3.4	1.5	5.1	—0.4	
☾	S	11	4:12	10:34	16:54	23:10	0.4	4.4	0.6	4.1		W	11	0:13	5:45	11:58	18:57	3.6	1.2	5.2	—0.3		S	11	2:03	7:27	13:30	20:28	3.5	1.3	5.2	—0.4	
	M	12	5:17	11:30	18:02		0.6	4.7	0.2		N	Th	12	1:20	6:43	12:55	19:57	3.5	1.2	5.4	—0.6		S	12	2:50	8:21	14:22	21:12	3.7	1.2	5.2	—0.4	
	Tu	13	0:22	6:10	12:22	19:06	4.0	0.8	5.1	—0.2		F	13	2:17	7:38	13:48	20:48	3.5	1.2	5.5	—0.7		M	13	3:32	9:10	15:10	21:50	3.9	1.0	5.1	—0.3	
	W	14	1:25	7:03	13:15	20:05	3.8	0.9	5.4	—0.6		S	14	3:08	8:29	14:38	21:35	3.6	1.1	5.5	—0.8	●	Tu	14	4:08	9:55	15:57	22:25	4.0	0.8	4.9	—0.1	
	Th	15	2:24	7:52	14:03	20:58	3.8	0.9	5.7	—0.8	●	S	15	3:53	9:17	15:24	22:15	3.7	1.0	5.6	—0.7		W	15	4:42	10:35	16:38	22:57	4.1	0.8	4.7	0.1	
☾	N F	16	3:17	8:40	14:52	21:47	3.7	0.9	5.9	—1.0		M	16	4:33	10:02	16:08	22:55	3.8	1.0	5.4	—0.6	E	Th	16	5:12	11:15	17:22	23:28	4.2	0.8	4.4	0.3	
	● S	17	4:05	9:27	15:38	22:33	3.6	1.0	5.9	—1.0		Tu	17	5:10	10:47	16:50	23:30	3.8	1.0	5.2	—0.3	A	F	17	5:40	11:50	17:57		4.3	0.7	4.1		
	S	18	4:50	10:12	16:22	23:18	3.6	1.0	5.8	—0.8		W	18	5:47	11:30	17:33		3.9	1.0	4.9			S	18	0:00	6:10	12:20	18:30	0.6	4.2	0.7	3.9	
	M	19	5:35	10:58	17:07		3.6	1.1	5.5		A E	Th	19	0:03	6:22	12:10	18:15	0.0	3.9	1.1	4.5		S	19	0:28	6:36	13:00	19:11	0.9	4.3	0.7	3.6	
	Tu	20	0:00	6:18	11:41	17:49	—0.7	3.6	1.3	5.2		F	20	0:35	6:54	12:53	18:58	0.3	4.0	1.1	4.0		M	20	0:55	7:07	13:45	19:58	1.2	4.3	0.6	3.3	
☾	W	21	0:40	7:00	12:30	18:35	—0.3	3.6	1.4	4.7		S	21	1:04	7:24	13:32	19:40	0.7	4.0	1.2	3.6		Tu	21	1:22	7:45	14:35	20:52	1.4	4.4	0.6	3.0	
	Th	22	1:18	7:44	13:20	19:23	0.0	3.6	1.6	4.3		S	22	1:38	7:55	14:14	20:20	1.0	4.0	1.2	3.4	☾	W	22	1:58	8:30	15:33	21:56	1.5	4.5	0.5	2.9	
	A F	23	1:55	8:25	14:15	20:15	0.3	3.7	1.6	3.8		M	23	2:13	8:35	15:09	21:17	1.2	4.0	1.1	3.1	S	Th	23	2:48	9:25	16:35	23:05	1.7	4.6	0.3	2.8	
	S	24	2:30	9:03	15:10	21:08	0.7	3.8	1.5	3.4		Tu	24	2:52	9:20	16:10	22:26	1.4	4.2	0.9	2.9		F	24	3:53	10:27	17:37		1.8	4.7	0.1		
	☾ S	25	3:07	9:42	16:00	22:05	1.0	3.8	1.5	3.2		W	25	3:38	10:12	17:13	23:35	1.5	4.4	0.7	2.9		S	25	0:07	5:10	11:32	18:38	3.0	1.8	4.9	—0.1	
☾	M	26	3:55	10:25	16:48	23:08	1.2	4.0	1.3	3.1		Th	26	4:37	11:10	18:14		1.7	4.6	0.8			S	26	1:02	6:22	12:36	19:30	3.3	1.4	5.1	—0.4	
	Tu	27	4:47	11:10	18:03		1.3	4.2	0.9		S	F	27	0:38	5:42	12:07	19:10	3.0	1.6	5.0	—0.1		M	27	1:53	7:25	13:37	20:19	3.7	1.0	5.4	—0.5	
	W	28	0:10	5:35	11:58	18:52	3.1	1.4	4.6	0.5		S	28	1:33	6:45	13:04	20:03	3.2	1.4	5.3	—0.5		Tu	28	2:40	8:23	14:35	21:07	4.1	0.5	5.5	—0.6	
	Th	29	1:07	6:23	12:45	19:42	3.1	1.3	5.0	0.0		S	29	2:22	7:42	13:58	20:50	3.5	1.2	5.6	—0.8	☾	W	29	3:23	9:20	15:30	21:52	4.6	0.1	5.6	—0.6	
	s F	30	2:00	7:13	13:38	20:29	3.2	1.3	5.3	—0.5		M	30	3:08	8:37	14:52	21:37	3.8	0.8	5.9	—1.0	E	Th	30	4:07	10:11	16:24	22:38	4.9	0.3	5.5	—0.4	
☾	S	31	2:47	8:03	14:21	21:17	3.4	1.2	5.7	—0.8	☾	Tu	31	3:53	9:30	15:44	22:22	4.1	0.5	6.0	—1.0												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cape Horn Mean Local Civil, for the meridian 67° 17' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
	F	1	4:52 5.1	11:00 -0.5	17:17 5.4	23:28 -0.2		M	1	5:54 5.8	12:38 -1.2	19:02 4.3	0:14 1.1	6:20 5.8
	S	2	5:37 5.2	11:53 -0.7	18:13 5.1		N	Tu	2	0:35 0.8	6:40 5.7	13:35 -1.1	20:00 4.0	1:05 1.2
	S	3	0:15 0.1	6:22 5.4	12:50 -0.8	19:12 4.7		W	3	1:27 1.2	7:34 5.5	14:34 -0.9	21:00 3.7	2:04 1.4
	M	4	1:02 0.6	7:08 5.4	13:48 -0.7	20:13 4.2		Th	4	2:24 1.4	8:30 5.2	15:34 -0.6	22:05 3.6	3:00 1.6
N	Tu	5	1:53 0.9	7:58 5.3	14:50 -0.6	21:18 3.8		F	5	3:28 1.6	9:28 4.9	16:34 -0.4	23:10 3.6	4:07 1.6
☾	W	6	2:47 1.3	8:57 5.1	15:56 -0.5	22:28 3.5		S	6	4:34 1.7	10:30 4.6	17:30 -0.2		5:12 1.6
	Th	7	3:52 1.5	9:57 4.9	17:02 -0.4	23:39 3.5		S	7	0:08 3.7	5:45 1.6	11:38 4.2	18:20 0.1	6:14 4.0
	F	8	5:00 1.7	11:02 4.8	18:07 -0.3			M	8	1:00 3.9	6:48 1.5	12:42 4.2	19:10 0.3	7:06 4.1
	S	9	0:45 3.5	6:08 1.6	12:05 4.7	19:03 -0.2	A	Tu	9	1:40 4.1	7:45 1.2	13:40 4.0	19:52 0.5	7:52 4.2
	S	10	1:40 3.7	7:14 1.4	13:07 4.6	19:55 -0.1	E	W	10	2:20 4.2	8:34 0.9	14:28 3.9	20:35 0.7	8:35 4.4
	M	11	2:24 3.9	8:10 1.2	14:04 4.5	20:38 0.0		Th	11	2:50 4.3	9:10 0.7	15:15 5.9	21:12 0.8	9:18 4.6
	Tu	12	3:02 4.1	8:55 1.0	14:55 4.5	21:16 0.1	●	F	12	3:20 4.4	9:48 0.5	15:58 3.8	21:46 1.0	10:00 4.8
E	W	13	3:27 4.3	9:40 0.8	15:40 4.4	21:52 0.4		S	13	3:50 4.6	10:25 0.2	16:40 3.7	22:15 1.2	10:45 5.1
●	Th	14	4:08 4.4	10:20 0.6	16:22 4.2	22:28 0.5		S	14	4:24 4.8	11:05 0.0	17:20 3.6	22:46 1.3	11:25 5.3
	F	15	4:38 4.4	10:50 0.5	17:00 4.2	22:56 0.8		M	15	4:55 4.9	11:44 -0.2	18:05 3.5	23:16 1.5	12:07 5.3
	S	16	5:03 4.4	11:24 0.4	17:40 4.0	23:24 1.0	S	Tu	16	5:30 5.0	12:26 -0.4	18:48 3.3	23:50 1.5	12:52 5.3
	S	17	5:30 4.5	12:00 0.3	18:18 3.7	23:50 1.2		W	17	6:06 5.0	13:10 -0.4	19:35 3.2		0:20 1.5
	M	18	6:00 4.6	12:40 0.2	19:00 3.5			Th	18	6:30 1.6	13:50 -0.5	20:25 3.2		1:12 1.5
	Tu	19	6:18 1.4	6:32 4.6	13:25 0.1	19:46 3.2		F	19	1:18 1.7	7:37 5.0	14:45 -0.4	21:18 3.2	2:12 1.5
S	W	20	0:50 1.6	7:14 4.7	14:10 0.0	20:39 3.1	☾	S	20	2:14 1.6	8:32 4.9	15:40 -0.3	22:11 3.4	3:20 1.3
	Th	21	1:30 1.8	8:00 4.7	15:05 0.0	21:40 3.0		S	21	3:24 1.6	9:37 4.8	16:32 -0.2	23:05 3.6	4:28 1.0
☾	F	22	2:25 1.8	8:54 4.7	16:02 -0.1	22:40 3.0		M	22	4:36 1.5	10:45 4.6	17:25 0.0	23:55 4.0	5:30 0.7
	S	23	3:32 1.8	9:57 4.7	17:02 -0.1	23:38 3.3	E	Tu	23	5:50 1.1	11:56 4.6	18:19 0.2		6:35 4.7
	S	24	4:50 1.6	11:05 4.8	18:00 -0.2			W	24	0:44 4.4	6:54 0.6	13:04 4.5	19:14 0.3	7:37 5.1
	M	25	0:32 3.6	6:03 1.3	12:14 4.9	18:54 -0.2	P	Th	25	1:30 4.7	7:48 0.1	14:08 4.6	20:10 0.4	8:36 5.4
	Tu	26	1:20 4.0	7:10 0.8	13:18 5.0	19:45 -0.2		F	26	2:20 5.2	8:48 -0.5	15:08 4.6	20:58 0.5	9:35 5.7
E	W	27	2:10 4.5	8:12 0.3	14:20 5.0	20:34 -0.2	☾	S	27	3:06 5.6	9:46 -0.9	16:05 4.4	21:46 0.6	10:28 5.9
P	Th	28	2:50 4.8	9:02 -0.2	15:20 5.1	21:28 -0.1		S	28	3:55 5.8	10:40 -1.2	17:00 4.3	22:35 0.7	11:20 6.0
	F	29	3:38 5.2	10:00 -0.6	16:15 5.1	22:15 0.1	N	M	29	4:44 6.0	11:35 -1.4	17:56 4.1	23:24 0.9	12:12 5.9
	S	30	4:26 5.6	10:50 -1.0	17:10 4.9	23:00 0.3		Tu	30	5:30 6.0	12:27 -1.4	18:50 4.0		12:58 5.7
	S	31	5:10 5.7	11:45 -1.2	18:08 4.6	23:50 0.6								0:46 1.3
														6:50 5.3
														13:45 -0.7
														20:10 3.9

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cape Horn Mean Local Civil, for the meridian 67° 17' W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.													
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								
	W.	Mo.										W.	Mo.										W.	Mo.									
N O	F	1	5:12 3.4	11:20 0.1	17:51 4.0					N O	M	1	1:32 0.6	7:28 2.9	12:47 0.3	19:17 4.4					N O	M	1	0:06 0.8	6:18 2.6	11:30 0.7	18:02 4.0						
	S	2	0:22 0.5	6:20 3.2	12:15 0.1	18:45 4.2					Tu	2	2:30 0.4	8:27 2.9	13:40 0.2	20:07 4.6						Tu	2	1:28 0.7	7:30 2.8	12:34 0.5	19:00 4.1						
	S	3	1:29 0.4	7:24 3.2	13:06 0.0	19:35 4.5					W	3	3:18 0.3	9:13 3.0	14:28 0.1	20:50 4.7						W	3	2:18 0.5	8:22 3.0	13:32 0.4	19:50 4.3						
	M	4	2:29 0.3	8:20 3.1	13:53 0.0	20:21 4.8					Th	4	3:55 0.2	9:52 3.1	15:13 0.1	21:33 4.7						Th	4	2:54 0.3	9:00 3.1	14:18 0.2	20:33 4.4						
	Tu	5	3:17 0.2	9:10 3.0	14:08 0.1	21:08 4.9					F	5	4:25 0.1	10:25 3.1	15:48 0.2	22:12 4.6						F	5	3:26 0.1	9:30 3.2	15:01 0.1	21:14 4.4						
	W	6	4:00 0.1	9:35 3.0	15:18 0.1	21:47 4.9					S	6	4:53 0.0	10:52 3.1	16:24 0.3	22:47 4.4						S	6	3:48 0.0	9:56 3.4	15:37 0.2	21:48 4.3						
	Th	7	4:42 0.2	10:35 2.9	15:58 0.2	22:28 4.8					S	7	5:20 0.0	11:18 3.1	16:55 0.5	23:18 4.2						A	S	7	4:15 0.0	10:21 3.5	16:07 0.2	22:19 4.2					
	F	8	5:17 0.1	11:15 2.9	16:33 0.4	23:07 4.6					A	M	8	5:48 0.1	11:46 3.1	17:25 0.6	23:51 3.9					M	8	4:38 0.0	10:45 3.5	16:37 0.3	22:52 4.0						
	S	9	5:53 0.1	11:48 2.8	17:08 0.7	23:47 4.3					E	Tu	9	6:17 0.1	12:20 3.2	17:58 0.7						Tu	9	5:05 0.0	11:10 3.6	17:08 0.4	23:22 3.7						
	S	10	6:27 0.2	12:25 2.8	17:42 0.9						W	10	6:25 3.6	6:47 0.8	12:51 3.2	18:42 0.8						W	10	5:34 0.2	11:42 3.6	17:45 0.4	23:55 3.6						
A	M	11	6:25 4.0	7:05 0.3	13:05 2.7	18:20 1.1					Th	11	6:57 3.3	7:15 0.5	13:33 3.3	19:27 0.9					Th	11	6:02 0.3	12:15 3.6	18:22 0.5								
	Tu	12	1:03 3.7	7:42 0.4	13:49 2.8	19:05 1.2					F	12	1:33 3.0	7:56 0.7	14:23 3.2	20:25 1.0					F	12	0:25 3.3	6:28 0.6	12:50 3.5	19:07 0.6							
	W	13	1:43 3.3	8:20 0.5	14:30 2.9	20:10 1.3					C	S	13	2:25 2.8	8:42 0.9	15:24 3.2	21:46 1.0					S	13	0:57 3.0	6:55 0.8	13:40 3.4	20:08 0.7						
	Th	14	2:28 3.0	9:00 0.6	15:27 3.0	21:22 1.3					S	14	3:32 2.6	9:42 1.0	16:34 3.4	23:12 1.0					C	S	14	1:44 2.7	7:37 1.0	14:43 3.4	21:25 0.8						
	F	15	3:18 2.8	9:48 0.7	16:34 3.2	22:33 1.2					M	15	5:00 2.5	10:52 1.0	17:42 3.7						M	15	2:58 2.5	8:37 1.2	15:57 3.5	22:51 0.8							
	S	16	4:25 2.7	10:44 0.7	17:20 3.4	23:47 1.0					S	Tu	16	6:28 0.7	6:25 2.6	12:03 0.8	18:42 4.1					S	Tu	16	4:51 2.4	10:14 1.2	17:10 3.7						
	S	17	5:35 2.7	11:42 0.7	18:15 3.7						W	17	1:28 0.4	7:32 2.8	13:05 0.5	19:36 4.5					W	17	0:05 0.6	6:22 2.5	11:45 0.9	18:16 4.1							
	M	18	6:52 0.7	6:40 2.8	12:30 0.6	19:07 4.2					Th	18	2:18 0.0	8:20 3.1	13:58 0.2	20:25 4.9					Th	18	1:03 0.2	7:18 3.0	12:52 0.5	19:14 4.4							
	Tu	19	1:48 0.4	7:40 2.9	13:20 0.4	19:56 4.6					F	19	3:02 -0.4	9:06 3.4	14:48 -0.1	21:12 5.2					F	19	1:52 -0.2	8:08 3.4	13:48 0.0	20:04 4.8							
	S	W	20	2:37 0.0	8:35 3.0	14:10 0.2	20:42 4.9					P	S	20	3:45 -0.6	9:48 3.7	15:35 -0.4	22:00 5.2					S	20	2:35 -0.5	8:43 3.8	14:38 -0.3	20:52 4.9					
P	Th	21	3:24 -0.3	9:17 3.2	15:00 0.1	21:30 5.2					S	21	4:26 -0.8	10:29 4.0	16:22 -0.5	22:44 5.2					P	S	21	3:15 -0.7	9:24 4.2	15:25 -0.6	21:36 5.0						
	F	22	4:07 -0.5	10:05 3.3	15:43 0.0	22:17 5.3					E	M	22	5:07 -0.8	11:12 4.1	17:10 -0.5	23:28 4.9					E	M	22	3:55 -0.8	10:05 4.5	16:10 -0.7	22:23 4.8					
	S	23	4:52 -0.7	10:50 3.4	16:30 -0.1	23:05 5.2					Tu	23	5:47 -0.7	11:58 4.2	18:00 -0.3						Tu	23	4:37 -0.8	10:47 4.7	16:58 -0.7	23:10 4.6							
	S	24	5:37 -0.7	11:36 3.5	17:19 0.0	23:50 5.0					W	24	6:16 4.5	6:30 -0.5	12:42 4.2	18:53 -0.2					W	24	5:18 -0.6	11:30 4.6	17:43 -0.6	23:53 4.2							
	M	25	6:20 -0.6	12:25 3.6	18:12 0.1						Th	25	1:06 4.1	7:18 -0.2	13:34 4.1	19:48 0.2					Th	25	5:57 -0.2	12:14 4.5	18:35 -0.3								
	Tu	26	6:38 4.6	7:06 -0.5	13:18 3.6	19:12 0.3					D	F	26	2:00 3.5	8:10 0.2	14:35 3.9	21:00 0.5					F	26	0:43 3.7	6:40 0.1	13:05 4.3	19:35 0.1						
	W	27	1:30 4.2	7:55 -0.2	14:10 3.7	20:12 0.4					S	27	3:06 3.0	9:08 0.5	15:43 3.8	22:28 0.8					S	27	1:38 3.2	7:30 0.5	14:04 4.1	20:45 0.5							
	Th	28	2:29 3.7	8:45 0.1	15:10 3.7	21:23 0.5					S	28	4:38 2.7	10:20 0.7	16:54 3.8						D	S	28	2:52 2.7	8:32 0.8	15:11 3.8	22:11 0.7						
	F	29	3:34 3.3	9:44 0.3	16:17 3.8	22:48 0.7															M	29	4:36 2.5	9:50 0.9	16:27 3.7	23:43 0.8							
	S	30	4:50 3.0	10:49 0.4	17:22 3.9																Tu	30	6:17 2.6	11:10 0.9	17:35 3.8								
S	31	6:16 0.7	6:13 2.8	11:50 0.4	18:25 4.1															W	31	0:50 0.6	7:18 2.8	12:20 0.7	18:34 3.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Valparaíso Mean Local Civil, for the meridian 71° 39' W.; 0^h is midnight; 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	1:35 0.4	7:57 3.1	13:18 0.5	19:25 4.0					E	S	2	1:15 0.2	7:43 3.4	13:38 0.6	19:37 3.6					O	Tu	1	1:35 0.2	7:55 3.9	14:18 0.5	20:10 3.2				
	F	2	2:08 0.2	8:26 3.3	14:07 0.4	20:07 4.0						S	3	1:48 0.2	8:08 3.6	14:16 0.4	20:15 3.6						W	2	2:07 0.2	8:30 4.1	14:56 0.3	20:49 3.1				
	S	3	2:38 0.1	8:52 3.5	14:42 0.3	20:46 4.0						M	3	2:23 0.1	8:35 3.8	14:49 0.3	20:48 3.6						Th	3	2:39 0.3	9:06 4.4	15:36 0.1	21:29 3.1				
	S	4	3:05 0.0	9:18 3.7	15:15 0.2	21:22 4.0						Tu	4	2:52 0.1	9:03 4.0	15:17 0.2	21:20 3.5						F	4	3:08 0.4	9:46 4.5	16:18 -0.1	22:05 3.0				
	M	5	3:35 0.0	9:43 3.8	15:45 0.2	21:53 3.8						W	5	3:17 0.2	9:52 4.1	15:52 0.1	21:52 3.4						S	5	3:39 0.5	10:27 4.6	17:05 -0.2	22:48 2.9				
E	Tu	6	4:00 0.1	10:10 3.9	16:12 0.1	22:22 3.8					Th	6	3:42 0.3	10:06 4.2	16:31 0.0	22:23 3.2					S	6	4:14 0.6	11:12 4.6	17:53 -0.2	23:38 2.8						
	W	7	4:37 0.1	10:36 3.9	16:47 0.1	22:50 3.6					F	7	4:07 0.4	10:43 4.3	17:13 0.0	22:58 3.1					M	7	4:52 0.8	12:00 4.5	18:45 -0.1							
	Th	8	4:47 0.3	11:05 3.9	17:22 0.2	23:20 3.3					S	8	4:31 0.6	11:23 4.2	18:02 0.0	23:40 2.9					Tu	8	0:32 2.8	5:42 0.9	12:51 4.3	19:29 -0.1						
	F	9	5:09 0.5	11:40 3.9	18:07 0.3	23:53 3.1					S	9	4:58 0.8	12:10 4.1	18:56 0.1					W	9	1:36 2.7	6:46 1.0	13:46 4.1	20:33 0.0							
	S	10	5:33 0.7	12:23 3.8	19:00 0.4						M	10	0:33 2.7	5:35 1.0	13:08 4.0	19:55 0.2					Th	10	2:48 2.8	8:10 1.0	14:46 4.0	21:30 0.0						
O	S	11	0:36 2.8	6:03 1.0	13:16 3.6	20:03 0.5					Tu	11	1:40 2.5	6:30 1.2	14:08 3.9	20:58 0.3					F	11	3:54 3.0	9:32 0.9	15:50 3.8	22:25 0.0						
	M	12	1:32 2.6	6:42 1.2	14:18 3.6	21:13 0.6					W	12	3:07 2.5	8:01 1.3	15:10 3.8	22:04 0.3					S	12	4:48 3.4	10:52 0.7	16:58 3.7	23:17 0.0						
	Tu	13	3:04 2.4	7:58 1.4	15:32 3.6	22:30 0.6					Th	13	4:32 2.7	9:48 1.1	16:17 3.8	23:03 0.1					S	13	5:42 3.8	12:00 0.4	18:01 3.6							
	W	14	4:54 2.4	9:58 1.2	16:45 3.8	23:37 0.3					F	14	5:34 3.1	11:12 0.8	17:22 3.9	23:55 -0.1					M	14	0:10 0.0	6:35 0.4	12:58 0.2	19:00 3.5						
	Th	15	6:04 2.8	11:30 0.9	17:50 4.0						S	15	6:19 3.5	12:19 0.4	18:25 4.0					Tu	15	1:00 -0.1	7:23 4.5	13:55 0.0	19:55 3.5							
P	F	16	0:31 0.0	6:54 3.2	12:37 0.4	18:48 4.3					S	16	0:43 -0.2	7:00 4.0	13:15 0.0	19:20 4.0					W	16	1:46 -0.2	8:11 4.8	14:49 -0.1	20:47 3.3						
	S	17	1:18 -0.3	7:35 3.7	13:32 0.0	19:41 4.4					M	17	1:30 -0.3	7:45 4.4	14:04 -0.3	20:10 4.1					Th	17	2:30 -0.2	8:57 5.0	15:39 -0.2	21:35 3.2						
	S	18	2:01 -0.5	8:14 4.2	14:22 0.4	20:32 4.5					Tu	18	2:14 -0.4	8:30 4.7	14:52 -0.4	20:57 3.9					F	18	3:13 -0.1	9:42 5.1	16:27 -0.1	22:22 3.1						
	M	19	2:46 -0.6	8:58 4.5	15:10 0.6	21:18 4.5					W	19	2:54 -0.4	9:12 5.0	15:42 -0.5	21:43 3.7					S	19	3:54 0.1	10:27 5.0	17:15 -0.1	23:10 2.9						
	Tu	20	3:25 -0.6	9:37 4.8	15:52 0.8	22:02 4.3					Th	20	3:35 -0.3	9:58 5.1	16:30 -0.5	22:28 3.4					S	20	4:37 0.3	11:12 4.9	18:00 0.0	23:58 2.8						
N	W	21	4:03 -0.5	10:17 4.9	16:38 0.7	22:46 4.0					F	21	4:13 -0.1	10:43 5.0	17:20 -0.3	23:17 3.2					M	21	5:20 0.5	11:58 4.6	18:46 0.1							
	Th	22	4:42 -0.3	11:02 4.9	17:29 0.5	23:32 3.6					S	22	4:53 0.2	11:30 4.9	18:12 -0.1					Tu	22	0:50 2.7	6:03 0.8	12:45 4.2	19:32 0.2							
	F	23	5:22 0.0	11:50 4.7	18:23 0.2						S	23	0:09 2.9	5:37 0.5	12:20 4.6	19:08 0.1					W	23	1:44 2.7	6:52 1.0	13:31 3.9	20:18 0.3						
	S	24	0:22 3.2	6:04 0.4	12:42 4.5	19:22 0.1					M	24	1:10 2.7	6:26 0.8	13:12 4.2	20:07 0.3					Th	24	2:42 2.6	7:50 1.2	14:17 3.6	21:03 0.4						
	S	25	1:22 2.8	6:54 0.7	13:38 4.2	20:30 0.4					Tu	25	2:25 2.5	7:27 1.1	14:07 3.9	21:07 0.5					F	25	3:38 2.7	8:55 1.3	15:10 3.3	21:49 0.5						
D	M	26	2:44 2.5	7:57 1.0	14:40 3.9	21:48 0.6					W	26	3:46 2.5	8:38 1.2	15:05 3.6	22:05 0.5					S	26	4:20 2.9	10:09 1.8	16:08 3.0	22:32 0.6						
	Tu	27	4:25 2.5	9:20 1.1	15:47 3.7	23:02 0.7					Th	27	4:55 2.6	10:02 1.3	16:06 3.4	22:54 0.5					S	27	5:05 3.1	11:20 1.2	17:04 2.9	23:17 0.6						
	W	28	5:46 2.6	10:45 1.1	16:55 3.6	23:56 0.5					F	28	5:44 2.8	11:14 1.2	17:05 3.8	23:38 0.4					M	28	5:52 3.4	12:18 1.1	17:58 2.8							
	Th	29	6:38 2.9	11:37 0.9	17:56 3.6						S	29	6:18 3.1	12:17 1.0	18:05 3.3					Tu	29	0:05 0.6	6:37 3.6	13:17 0.9	18:50 2.8							
	F	30	0:40 0.4	7:13 3.1	12:53 0.8	18:48 3.6					S	30	0:18 0.4	6:47 3.4	13:02 0.8	18:32 3.2					W	30	0:48 0.5	7:20 3.9	13:55 0.6	19:40 2.9						
										M	31	0:58 0.3	7:20 3.7	13:44 0.7	19:34 3.2																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Valparaiso Mean Local Civil, for the meridian 71° 39' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
☾	Th 1	1:28	8:02	14:38	20:27	☾	S 1	2:37	9:08	15:47	21:44	P	W 1	3:58	10:19	16:39	22:45
		0.4	4.3	0.3	2.9			0.2	4.9	-0.4	3.2			-0.4	5.0	-0.8	4.1
	F 2	2:10	8:44	15:22	21:11		M 2	3:23	9:56	16:28	22:28	E	Th 2	4:45	11:01	17:19	23:29
		0.4	4.5	0.0	2.9			0.1	5.1	-0.6	3.4			-0.5	4.8	-0.7	4.2
	S 3	2:48	9:28	16:05	21:55	P	Tu 3	4:09	10:40	17:11	23:10		F 3	5:34	11:49	18:00	
☾		0.4	4.8	-0.2	3.0			0.0	5.1	-0.6	3.6			-0.4	4.4	-0.5	
	S 4	3:28	10:12	16:50	22:38		W 4	4:55	11:26	17:53	23:56		S 4	6:12	6:22	12:35	18:46
		0.4	4.9	-0.3	3.0			0.0	4.9	-0.6	3.7			4.3	-0.3	4.1	-0.2
	M 5	4:10	10:57	17:38	23:28	E	Th 5	5:50	12:11	18:36			S 5	1:02	7:20	13:30	19:38
		0.4	4.9	-0.4	3.1			0.0	4.6	-0.5				4.1	0.0	3.6	0.3
☾	Tu 6	4:57	11:45	18:23			F 6	6:45	6:40	13:01	19:23	☾	M 6	2:01	8:29	14:36	20:35
		0.5	4.8	-0.4				3.7	0.2	4.2	-0.3			4.0	0.4	3.1	0.6
	W 7	5:20	5:50	12:34	19:12		S 7	1:35	7:43	13:58	20:10		Tu 7	3:09	9:52	16:05	21:45
		3.1	0.5	4.6	-0.3			3.8	0.3	3.8	0.1			3.9	0.6	2.7	0.7
	Th 8	1:15	6:50	13:25	20:00	☾	S 8	2:33	8:45	14:57	21:11	N	W 8	4:21	11:26	17:47	23:01
☾		3.2	0.6	4.3	-0.2			3.8	0.4	3.4	0.3			3.9	0.7	2.7	0.7
	F 9	2:13	7:57	14:22	20:50		M 9	3:39	10:05	16:11	22:12		Th 9	5:31	12:49	19:04	
		3.3	0.7	3.9	-0.1			3.8	0.6	3.0	0.4			4.0	0.6	2.8	
	S 10	3:08	9:12	15:25	21:44		Tu 10	4:47	11:33	17:36	23:18		F 10	6:09	6:32	13:44	19:55
		3.4	0.7	3.6	0.1			3.9	0.7	2.8	0.4			0.5	4.2	0.4	3.0
☾	S 11	4:10	10:26	16:30	22:42		W 11	5:51	12:55	19:00			S 11	1:08	7:30	14:29	20:35
		3.6	0.6	3.3	0.2			4.1	0.6	2.8				0.3	4.3	0.2	3.2
	M 12	5:13	11:41	17:42	23:40	N	Th 12	6:19	6:50	14:04	20:03		S 12	1:58	8:13	15:00	21:09
		3.9	0.6	3.2	0.2			0.3	4.4	0.4	2.9			0.2	4.4	0.0	3.4
	Tu 13	6:10	12:54	18:50			F 13	1:15	7:41	14:51	20:51		M 13	2:41	8:55	15:29	21:37
☾		4.2	0.4	3.1				0.2	4.6	0.3	3.0			0.0	4.5	-0.1	3.5
	W 14	6:35	7:07	13:58	19:54		S 14	2:06	8:30	15:30	21:31	☾	Tu 14	3:19	9:30	15:55	22:03
		0.1	4.5	0.3	3.0			0.1	4.7	0.1	3.1			0.0	4.4	-0.1	3.6
	Th 15	1:27	7:57	14:55	20:50	☾	S 15	2:51	9:15	16:05	22:05		W 15	3:54	10:05	16:20	22:29
		0.0	4.7	0.2	3.0			0.0	4.8	0.0	3.2			0.1	4.2	-0.1	3.7
☾	F 16	2:15	8:44	15:43	21:38		M 16	3:34	9:54	16:33	22:36	E	Th 16	4:25	10:37	16:49	22:57
		0.0	4.9	0.1	3.0			0.1	4.7	0.0	3.3	A		0.2	3.9	0.0	3.7
	S 17	3:01	9:28	16:23	22:30		Tu 17	4:11	10:30	17:02	23:05		F 17	4:56	11:05	17:15	23:27
		0.0	5.0	0.0	3.0			0.2	4.5	0.0	3.3			0.3	3.6	0.2	3.6
	S 18	3:43	10:12	17:02	23:00		W 18	4:45	11:05	17:30	23:34		S 18	5:31	11:36	17:41	23:55
☾		0.1	4.9	0.0	3.0			0.3	4.3	0.0	3.3			0.4	3.5	0.4	3.5
	M 19	4:24	10:54	17:37	23:38	A	Th 19	5:16	11:38	18:00			S 19	6:01	12:02	18:03	
		0.2	4.7	0.0	3.0	E		0.5	4.0	0.1				0.5	3.2	0.7	
	Tu 20	5:03	11:33	18:12			F 20	6:05	5:50	12:11	18:29		M 20	6:30	6:48	12:31	18:38
		0.4	4.5	0.0				3.3	0.7	3.6	0.3			3.5	0.7	2.9	0.9
☾	W 21	6:14	5:42	12:12	18:48		S 21	6:36	6:30	12:41	19:00		Tu 21	1:19	7:47	13:16	19:03
		2.9	0.7	4.1	0.1			3.3	0.8	3.2	0.6			3.4	0.8	2.6	1.1
	Th 22	6:53	6:20	12:50	19:25		S 22	1:15	7:11	13:19	19:37	☾	W 22	2:19	9:01	14:25	20:00
		2.9	0.9	3.8	0.2			3.3	0.9	3.0	0.8			3.3	0.9	2.4	1.3
	F 23	1:36	7:02	13:31	20:01	☾	M 23	2:01	8:06	14:00	20:20		Th 23	3:31	10:25	16:26	21:40
☾		2.9	1.1	3.4	0.4			3.2	1.0	2.7	1.0			3.4	0.9	2.3	1.3
	S 24	2:13	7:57	14:12	20:38		Tu 24	3:01	9:21	15:01	21:14		F 24	4:45	11:40	17:58	23:18
		3.0	1.2	3.1	0.6			3.2	1.1	2.5	1.1			3.6	0.7	2.5	1.0
	S 25	3:04	9:00	14:54	21:25		W 25	4:10	10:49	16:31	22:25		S 25	5:50	12:38	18:54	
		3.1	1.3	2.8	0.7			3.3	1.1	2.4	1.1			3.9	0.3	2.9	
☾	M 26	4:00	10:08	15:55	22:18		Th 26	5:17	12:06	18:04	23:39		S 26	6:27	6:48	13:24	19:37
		3.2	1.3	2.6	0.8			3.5	0.9	2.5	0.9			0.6	4.2	-0.1	3.4
	Tu 27	4:59	11:25	17:06	23:13	☾	F 27	6:19	13:06	19:10			M 27	1:24	7:39	14:06	20:18
		3.3	1.2	2.6	0.8			3.9	0.5	2.7				0.2	4.6	-0.4	3.8
	W 28	5:55	12:33	18:18			S 28	6:42	7:13	13:55	20:00		Tu 28	2:12	8:26	14:47	20:58
☾		3.6	0.9	2.6				0.6	4.3	0.1	3.1			-0.2	4.8	-0.6	4.2
	Th 29	6:10	6:47	13:30	19:20		S 29	1:36	8:02	14:39	20:41	☾	W 29	2:59	9:12	15:25	21:38
		0.7	3.9	0.6	2.7			0.3	4.7	-0.2	3.4			-0.5	4.8	-0.8	4.5
	F 30	1:00	7:37	14:20	20:13		M 30	2:26	8:49	15:19	21:21	☾	Th 30	3:45	9:58	16:10	22:20
		0.6	4.3	0.3	2.9			0.0	4.9	-0.5	3.7			-0.7	4.7	-0.8	4.7
☾	S 31	1:50	8:23	15:04	21:00	☾	Tu 31	3:13	9:34	15:59	22:03						
		0.4	4.7	-0.1	3.1			-0.3	5.1	-0.7	4.0						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Valparaiso Mean Local Civil, for the meridian 71° 39' W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☾, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.							W.		Mo.							W.	Mo.											
N	F	1	4:31	10:44	16:49	23:01					M	1	5:59	11:56	17:39						W	1	6:43	12:44	18:05					
	S	2	—0.8	4.6	—0.6	4.7					Tu	2	0:17	6:58	12:56	18:28					Th	2	0:49	7:40	13:54	19:01				
	S	3	6:10	12:16	18:10						W	3	1:13	8:02	14:14	19:30					F	3	1:44	8:38	15:10	20:11				
	M	4	—0.4	3.7	0.1						Th	4	4.4	0.3	2.6	0.9					S	4	4.1	0.3	2.6	1.1				
	Tu	5	0:38	7:08	13:10	19:00					F	5	2:14	9:17	15:51	20:52					S	5	2:41	9:36	16:23	21:35				
	W	6	4.4	0.0	3.2	0.5					S	6	4.1	0.5	2.5	1.0					M	6	3.8	0.4	2.7	1.2				
	Th	7	1:37	8:16	14:24	20:01					M	7	3:21	10:30	17:17	22:19					W	7	3:42	10:30	17:21	22:54				
	F	8	4.2	0.3	2.8	0.8					S	8	3.8	0.5	2.7	1.0					Th	8	3.5	0.4	2.9	1.1				
	S	9	2:42	9:39	16:04	21:21					Tu	9	4:30	11:30	18:12	23:35					F	9	4:46	11:18	17:58					
	M	10	4.0	0.6	2.6	0.9					W	10	5:34	12:18	18:53					S	10	3.3	0.4	3.1						
	Tu	11	3:55	11:07	17:46	22:45					Th	11	3.7	0.3	3.2					Th	11	0:03	5:49	12:01	18:34					
	W	12	3.9	0.7	2.7	0.9					F	12	0:36	6:30	12:55	19:25					W	12	1.0	3.2	0.4	3.4				
Th	13	5:06	12:19	18:50	23:57					S	13	0.7	3.6	0.2	3.5					Th	13	0:56	6:41	12:42	19:09					
F	14	3.9	0.5	2.9	0.7					Tu	14	1:25	7:21	13:31	19:51					F	14	0.9	3.1	0.3	3.7					
S	15	6:10	13:08	19:31						W	15	0.6	3.7	0.2	3.7					S	15	1:40	7:26	13:21	19:45					
M	16	4.0	0.3	3.2						Th	16	2:04	8:01	14:08	20:20					M	16	0.7	3.1	0.3	3.9					
Tu	17	0:57	7:03	13:45	20:04					F	17	0.4	3.6	0.1	3.9					Tu	17	2:16	8:05	13:56	20:20					
W	18	0.5	4.0	0.1	3.4					S	18	2:40	8:36	14:36	20:50					W	18	0.6	3.0	0.3	4.1					
Th	19	1:45	7:50	14:16	20:33					Tu	19	0.3	3.5	0.1	4.0					Th	19	2:51	8:40	14:28	20:55					
F	20	0.3	4.1	0.0	3.6					W	20	3:09	9:09	15:02	21:20					F	20	0.4	3.0	0.3	4.3					
S	21	2:26	8:31	14:46	21:02					Th	21	0.3	3.4	0.2	4.2					S	21	3:26	9:15	14:56	21:31					
M	22	0.2	4.0	—0.1	3.8					F	22	3:41	9:36	15:26	21:51					M	22	0.2	3.0	0.4	4.5					
Tu	23	3:01	9:10	15:20	21:29					S	23	0.2	3.3	0.3	4.2					Tu	23	4:05	9:48	15:25	22:10					
W	24	0.2	3.9	0.0	3.9					Tu	24	4:17	10:06	15:50	22:26					W	24	0.1	2.9	0.5	4.5					
Th	25	3:34	9:40	15:44	21:56					W	25	0.1	3.1	0.5	4.3					Th	25	4:48	10:28	15:55	22:51					
F	26	0.1	3.8	0.1	3.9					Th	26	4:57	10:37	16:11	23:05					F	26	0.0	2.9	0.6	4.5					
S	27	4:06	10:07	16:08	22:20					F	27	0.1	3.0	0.7	4.2					S	27	5:31	11:11	16:30	23:35					
M	28	0.1	3.7	0.2	3.9					S	28	5:41	11:14	16:34	23:47					M	28	—0.1	2.8	0.7	4.5					
Tu	29	4:32	10:32	16:28	22:50					Tu	29	0.1	2.8	0.9	4.1					Tu	29	6:19	12:00	17:12						
W	30	0.2	3.4	0.4	3.9					W	30	6:31	12:01	17:04					W	30	—0.1	2.8	0.9							
Th	31	5:08	11:00	16:47	23:23					Th	31	0.2	2.7	1.0					Th	31	0:23	7:09	12:58	18:09						
F	1	0.2	3.2	0.6	3.9					F	1	0.2	2.7	1.0					F	1	4.3	—0.1	2.8	1.0						
S	2	4:32	10:32	16:28	22:50					S	2	5:41	11:14	16:34	23:47					S	2	1:15	8:00	14:04	19:20					
M	3	0.2	3.4	0.4	3.9					Tu	3	0.1	2.8	0.9	4.1					M	3	4.1	0.0	2.8	1.0					
Tu	4	5:08	11:00	16:47	23:23					W	4	6:31	12:01	17:04					Tu	4	0.2	3.2	0.6	4.5						
W	5	0.2	3.2	0.6	3.9					Th	5	0.2	2.7	1.0					W	5	4.3	—0.1	2.8	1.0						
Th	6	4:32	10:32	16:28	22:50					F	6	5:41	11:14	16:34	23:47					Th	6	1:15	8:00	14:04	19:20					
F	7	0.2	3.4	0.4	3.9					S	7	0.1	2.8	0.9	4.1					F	7	4.1	0.0	2.8	1.0					
S	8	5:08	11:00	16:47	23:23					Tu	8	6:31	12:01	17:04					S	8	0:23	7:09	12:58	18:09						
M	9	0.2	3.2	0.6	3.9					W	9	0.2	2.7	1.0					M	9	4.3	—0.1	2.8	1.0						
Tu	10	4:32	10:32	16:28	22:50					Th	10	5:41	11:14	16:34	23:47					Tu	10	1:15	8:00	14:04	19:20					
W	11	0.2	3.4	0.4	3.9					F	11	0.1	2.8	0.9	4.1					W	11	4.1	0.0	2.8	1.0					
Th	12	5:08	11:00	16:47	23:23					S	12	6:31	12:01	17:04					Th	12	0:23	7:09	12:58	18:09						
F	13	0.2	3.2	0.6	3.9					Tu	13	0.2	2.7	1.0					F	13	4.3	—0.1	2.8	1.0						
S	14	4:32	10:32	16:28	22:50					W	14	5:41	11:14	16:34	23:47					S	14	1:15	8:00	14:04	19:20					
M	15	0.2	3.4	0.4	3.9					Th	15	0.1	2.8	0.9	4.1					M	15	4.1	0.0	2.8	1.0					
Tu	16	5:08	11:00	16:47	23:23					F	16	6:31	12:01	17:04					Tu	16	0:23	7:09	12:58	18:09						
W	17	0.2	3.2	0.6	3.9					S	17	0.2	2.7	1.0					W	17	4.3	—0.1	2.8	1.0						
Th	18	4:32	10:32	16:28	22:50					Tu	18	5:41	11:14	16:34	23:47					Th	18	1:15	8:00	14:04	19:20					
F	19	0.2	3.4	0.4	3.9					W	19	0.1	2.8	0.9	4.1					F	19	4.1	0.0	2.8	1.0					
S	20	5:08	11:00	16:47	23:23					Th	20	6:31	12:01	17:04					S	20	0:23	7:09	12:58	18:09						
M	21	0.2	3.2	0.6	3.9					F	21	0.2	2.7	1.0					M	21	4.3	—0.1	2.8	1.0						
Tu	22	4:32	10:32	16:28	22:50					S	22	5:41	11:14	16:34	23:47					Tu	22	1:15	8:00	14:04	19:20					
W	23	0.2	3.4	0.4	3.9					Tu	23	0.1	2.8	0.9	4.1					W	23	4.1	0.0	2.8	1.0					
Th	24	5:08	11:00	16:47	23:23					W	24	6:31	12:01	17:04					Th	24	0:23	7:09	12:58	18:09						
F	25	0.2	3.2	0.6	3.9					Th	25	0.2	2.7	1.0					F	25	4.3	—0.1	2.8	1.0						
S	26	4:32	10:32	16:28	22:50					F	26	5:41	11:14	16:34	23:47					S	26	1:15	8:00	14:04	19:20					
M	27	0.2	3.4	0.4	3.9					S	27	0.1	2.8	0.9	4.1					M	27	4.1	0.0	2.8	1.0					
Tu	28	5:08	11:00	16:47	23:23					Tu	28	6:31	12:01	17:04					Tu	28	0:23	7:09	12:58	18:09						
W	29	0.2	3.2	0.6	3.9					W	29	0.2	2.7	1.0					W	29	4.3	—0.1	2.8	1.0						
Th	30	4:32	10:32	16:28	22:50					Th	30	5:41	11:14	16:34	23:47					Th	30	1:15	8:00	14:04	19:20					
F	31	0.2	3.4	0.4	3.9					F	31	0.1	2.8	0.9	4.1					F	31	4.1	0.0	2.8	1.0					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Valparaiso Mean Local Civil, for the meridian 71° 39' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.					W.	Mo.					W.	Mo.								
O N	F	1	4:45 2.1	10:55 12.8	17:10 2.6	23:22 13.5	N	M	1	0:00 12.7	6:28 2.5	12:55 12.3	18:58 3.4	N	M	1	4:51 3.1	11:10 11.7	17:26 4.1	23:38 11.8		
	S	2	5:50 2.1	12:06 12.8	18:15 2.6			Tu	2	1:10 12.9	7:30 2.2	13:56 12.8	20:00 3.0		Tu	2	6:04 3.3	12:34 11.8	18:44 4.0			
	S	3	0:28 13.6	6:54 1.7	13:12 13.2	19:16 2.4		W	3	2:10 13.3	8:24 1.7	14:48 13.4	20:53 2.5		W	3	0:56 12.0	7:11 3.0	13:41 12.3	19:47 3.6		
	M	4	1:27 13.9	7:48 1.2	14:08 13.6	20:13 2.1		Th	4	3:00 13.7	9:11 1.2	15:32 14.0	21:38 2.1		Th	4	1:59 12.5	8:09 2.4	14:34 13.0	20:39 3.0		
	Tu	5	2:20 14.3	8:40 0.7	15:00 14.1	21:03 1.7		F	5	3:43 14.1	9:54 0.9	16:10 14.4	22:18 1.7		F	5	2:49 13.1	8:54 1.9	15:14 13.7	21:20 2.3		
	W	6	3:10 14.5	9:21 0.4	15:45 14.5	21:50 1.6		S	6	4:21 14.2	10:31 0.7	16:47 14.6	22:54 1.6		S	6	3:30 13.8	9:34 1.3	15:48 14.3	21:56 1.7		
	Th	7	3:54 14.6	10:10 0.2	16:25 14.6	22:33 1.6		S	7	4:56 14.3	11:10 0.8	17:16 14.7	23:30 1.5		A	S	7	4:01 14.0	10:09 1.0	16:18 14.7	22:30 1.3	
	F	8	4:34 14.5	10:52 0.3	17:03 14.6	23:14 1.7		M	8	5:29 14.1	11:44 1.0	17:48 14.6			M	8	4:33 14.3	10:41 0.9	16:46 14.9	23:00 1.0		
	S	9	5:13 14.2	11:30 0.7	17:40 14.5	23:53 1.9		E	Tu	9	6:04 1.5	12:17 13.9	18:18 1.5		19:18 14.4	E	Tu	9	5:01 14.4	11:14 1.0	17:15 15.0	23:31 1.0
	S	10	5:50 13.8	12:10 1.2	18:17 14.1			W	10	6:39 1.8	12:49 13.6	18:50 2.0	19:50 14.1		W	10	5:31 14.4	11:44 1.2	17:43 14.9			
	A	M	11	0:32 2.2	6:26 13.3	12:48 1.9		18:52 13.7	Th	11	1:12 2.1	7:02 13.2	13:21 2.6		19:23 13.7	Th	11	0:04 1.1	6:00 14.3	12:15 1.6	18:13 14.7	
	E C	Tu	12	1:12 2.7	7:02 12.7	13:25 2.6		19:28 13.2	F	12	1:50 2.5	7:39 12.8	13:59 3.3		20:00 13.2	F	12	0:36 1.4	6:30 14.0	12:48 2.1	18:47 14.3	
W		13	1:54 3.1	7:40 12.2	14:04 3.3	20:08 12.8	S	13	2:31 3.1	8:21 12.4	14:41 3.8	20:45 12.7	S	13	1:11 1.9	7:07 13.7	13:24 2.7	19:26 13.8				
Th		14	2:37 3.5	8:20 11.8	14:47 3.9	20:50 12.4	S	14	3:26 3.4	9:16 12.0	15:39 4.2	21:41 12.3	C	S	14	1:55 2.4	7:50 13.2	14:08 3.3	20:09 13.2			
F		15	3:25 3.8	9:10 11.4	15:35 4.3	21:37 12.1	M	15	4:27 3.5	10:25 11.8	16:49 4.4	22:51 12.1	M	15	2:47 3.0	8:45 12.6	15:05 4.0	21:06 12.5				
S		16	4:18 4.0	10:08 11.3	16:34 4.4	22:37 12.0	S	Tu	16	5:36 3.3	11:42 12.0	18:05 4.0		S	Tu	16	3:51 3.4	9:53 12.2	16:19 4.2	22:20 12.1		
S		17	5:17 3.6	11:15 11.6	17:37 4.2	23:38 12.3	W	17	6:06 12.5	6:41 2.5	12:54 12.8	19:13 3.0	W	17	5:04 3.3	11:13 12.2	17:40 3.8	23:42 12.3				
M		18	6:16 3.6	12:22 12.1	18:38 3.6		Th	18	1:16 13.4	7:43 1.5	13:55 14.0	20:11 1.8	Th	18	6:17 2.7	12:30 12.9	18:53 3.0					
Tu		19	0:40 12.9	7:12 2.1	13:22 13.0	19:37 2.7	F	19	2:15 14.4	8:37 0.3	14:48 15.3	21:03 0.7	F	19	0:57 13.1	7:21 1.7	13:34 14.1	19:52 1.7				
W		20	1:38 13.8	8:05 1.1	14:16 14.1	20:30 1.8	S	20	3:07 15.4	9:27 -0.7	15:36 16.4	21:51 -0.4	S	20	1:59 14.3	8:16 0.5	14:28 15.4	20:45 0.3				
Th		21	2:30 14.6	8:55 0.1	15:05 15.2	21:00 0.9	S	21	3:55 16.3	10:13 -1.5	16:21 17.2	22:40 -1.2	P	S	21	2:52 15.5	9:06 -0.6	15:15 16.5	21:32 -0.8			
P E		F	22	3:20 15.5	9:43 -0.7	15:53 16.1	22:07 0.1	E	M	22	4:41 16.9	10:59 -1.8	17:06 17.6	23:23 -1.5	E	M	22	3:39 16.6	9:53 -1.4	16:00 17.3	22:18 -1.6	
		S	23	4:08 16.0	10:30 -1.2	16:40 16.7	22:55 -0.4	Tu	23	5:27 17.0	11:43 -1.6	17:50 17.5		Tu	23	4:23 17.1	10:38 -1.7	16:44 17.7	23:01 -1.9			
	S	24	4:57 16.4	11:17 -1.4	17:24 17.0	23:42 -0.7	W	24	6:10 -1.4	6:11 16.6	12:29 -1.0	18:35 17.0	W	24	5:08 17.2	11:21 -1.5	17:27 17.5	23:46 -1.7				
	M	25	5:42 16.4	12:02 -1.2	18:10 16.9		Th	25	6:56 -0.9	6:58 15.8	13:17 0.0	19:21 16.0	Th	25	5:51 16.7	12:06 -0.8	18:11 16.8					
	Tu	26	0:30 -0.5	6:30 16.0	12:50 -0.6	19:00 16.4	F	26	1:45 0.0	7:48 14.8	14:07 1.2	20:12 14.8	F	26	0:31 -0.9	6:37 15.9	12:53 0.2	18:56 15.8				
	W	27	1:20 -0.1	7:20 15.3	13:40 -0.2	19:50 15.7	S	27	2:39 1.2	8:44 13.5	15:04 2.5	21:09 13.5	S	27	1:20 0.2	7:25 14.7	13:43 1.5	19:46 14.5				
	Th	28	2:13 0.5	8:12 14.4	14:34 -1.2	20:42 14.8	S	28	3:39 2.4	9:50 12.4	16:11 3.6	22:17 12.3	N	S	28	2:11 1.4	8:19 13.4	14:40 2.8	20:41 13.1			
	F	29	3:10 1.3	9:12 13.5	15:34 2.3	21:42 13.8							M	29	3:11 2.	9:23 12.3	15:46 4.0	21:51 11.9				
	S	30	4:12 2.2	10:20 12.6	16:40 3.1	22:48 12.9							Tu	30	4:21 3.5	10:45 11.5	17:04 4.5	23:16 11.3				
	S	31	5:20 2.6	11:37 12.3	17:50 3.5								W	31	5:36 3.8	12:08 11.5	18:22 4.5					

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The time used is Panama Mean Local Civil, for the meridian 79° 32' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A O	Th	1	0:38 11.5	6:45 3.5	13:16 12.0	19:25 3.9	S	1	1:06 11.6	7:05 3.6	13:21 12.4	19:36 3.4	Tu	1	1:40 12.2	7:41 3.2	13:45 13.1	20:07 2.1														
	F	2	1:41 12.0	7:48 3.0	14:05 12.7	20:13 3.2	S	2	1:51 12.2	7:48 3.1	14:02 12.9	20:15 2.5	W	2	2:16 12.9	8:21 2.6	14:23 13.8	20:45 1.3														
	S	3	2:28 12.6	8:26 2.5	14:43 13.4	20:51 2.4	M	3	2:27 12.8	8:26 2.5	14:34 13.4	20:49 1.9	Th	3	2:52 13.7	9:01 2.1	15:00 14.4	21:24 0.7														
	S	4	3:08 13.3	9:05 1.9	15:15 14.0	21:26 1.7	Tu	4	2:58 13.4	9:01 2.0	15:08 14.0	21:21 1.2	F	4	3:29 14.4	9:40 1.7	15:37 14.8	22:03 0.2														
	M	5	3:35 13.8	9:39 1.5	15:46 14.3	21:58 1.1	W	5	3:29 14.0	9:35 1.7	15:34 14.5	21:55 0.7	S	5	4:09 14.9	10:20 1.4	16:16 15.0	22:44 0.0														
	Tu	6	4:04 14.3	10:10 1.2	16:11 14.7	22:28 0.8	Th	6	4:00 14.5	10:09 1.3	16:06 14.9	22:30 0.3	S	6	4:49 15.2	11:03 1.2	17:00 15.0	23:25 0.0														
	W	7	4:31 14.6	10:41 1.1	16:40 15.0	23:00 0.6	F	7	4:31 14.8	10:48 1.3	16:40 15.0	23:05 0.2	M	7	5:31 15.3	11:48 1.2	17:44 15.0	23:53 0.0														
	Th	8	5:00 14.7	11:12 1.1	17:10 15.1	23:34 0.5	S	8	5:07 15.0	11:21 1.4	17:17 15.0	23:43 0.4	Tu	8	6:11 15.1	12:37 1.4	18:31 14.5	0.0														
	F	9	5:30 14.7	11:45 1.4	17:41 15.0	23:58 0.0	S	9	5:46 14.9	12:05 1.6	17:58 14.7	23:58 0.0	W	9	7:09 14.8	13:33 1.7	19:25 14.0	0.0														
	S	10	6:07 0.8	12:16 1.9	18:18 14.6	0.0	M	10	6:26 0.8	12:30 1.4	18:43 14.2	0.0	Th	10	8:03 1.4	14:28 2.0	20:25 13.5	0.0														
S	11	6:46 1.3	12:45 14.2	18:01 2.4	19:00 14.0	Tu	11	7:19 1.4	13:39 14.1	19:34 2.5	13:55 13.5	F	11	9:03 1.9	15:30 14.1	21:29 2.2	13.1															
S	M	12	7:30 1.9	13:49 13.7	19:48 3.0	13.4	W	12	8:16 2.0	14:40 13.6	20:37 3.0	12.9	S	12	10:06 2.2	16:36 13.9	22:40 2.2	13.0														
C	Tu	13	8:26 2.5	14:50 13.1	20:48 3.6	12.6	Th	13	9:21 2.6	15:49 13.3	21:48 3.2	12.5	S	13	11:10 2.3	17:40 13.8	23:49 2.0	13.2														
W	14	9:34 3.0	16:03 12.6	22:01 3.8	12.2	F	14	10:31 2.7	17:01 13.3	23:04 2.8	12.6	M	14	12:12 2.0	18:39 14.1	0.0	0.0															
Th	15	10:51 3.1	17:22 12.6	23:25 3.5	12.4	S	15	11:40 2.4	18:07 13.6	23:58 2.1	0.0	Tu	15	13:11 13.7	19:35 1.7	0.0	0.0															
F	16	12:06 2.6	18:31 13.3	0.0	0.0	S	16	12:42 13.3	19:06 1.8	0.0	1.2	W	16	14:05 14.3	20:27 1.3	0.0	0.0															
S	17	6:58 13.3	13:09 1.7	19:30 14.3	1.4	M	17	7:28 14.2	13:38 1.0	19:59 15.1	0.2	Th	17	8:50 14.8	14:55 1.0	21:16 15.4	-0.3															
S	18	7:33 14.4	14:04 0.6	20:21 15.3	0.1	Tu	18	8:20 15.1	14:28 0.4	20:48 15.8	-0.6	F	18	9:39 15.2	15:41 0.8	22:02 15.5	-0.5															
M	19	8:44 15.5	14:51 -0.3	21:10 16.3	-0.9	W	19	9:09 15.7	15:14 0.0	21:34 16.3	-1.1	S	19	10:26 15.3	16:28 0.9	22:49 15.2	-0.3															
Tu	20	9:31 16.4	15:37 -0.9	21:50 17.0	-1.6	Th	20	9:55 16.1	15:59 -0.2	22:20 16.4	-1.2	S	20	11:11 15.1	17:12 1.1	23:33 14.8	0.1															
W	21	10:15 16.8	16:20 -1.2	22:39 17.2	-1.8	F	21	10:41 16.1	16:43 0.0	23:05 16.0	-0.9	M	21	11:58 14.8	17:58 1.5	24:22 14.2	0.0															
Th	22	11:00 16.8	17:04 -0.9	23:23 16.9	-1.5	S	22	11:27 15.8	17:28 0.5	23:50 15.4	-0.3	Tu	22	12:45 0.8	18:45 1.4	25:00 2.1	13.5															
F	23	5:31 16.4	11:45 -0.3	17:47 16.2	0.0	S	23	6:00 15.1	12:14 1.2	18:14 14.6	0.0	W	23	1:03 1.6	7:13 13.6	13:32 2.7	19:29 12.7															
S	24	0:09 -0.7	6:17 15.6	12:32 0.7	18:33 15.2	M	24	0:38 0.6	6:47 14.3	13:04 2.1	19:01 13.6	Th	24	1:52 2.5	8:00 13.0	14:22 3.3	20:16 12.0															
S	25	0:58 0.3	7:05 14.5	13:23 1.8	19:21 14.0	Tu	25	1:28 1.7	7:39 13.4	13:37 3.0	19:53 12.5	F	25	2:39 3.3	8:47 12.5	15:14 3.7	21:30 11.4															
M	26	1:19 1.5	7:59 13.4	14:18 3.0	20:18 12.6	W	26	2:20 2.7	8:32 12.6	14:57 3.7	20:52 11.6	S	26	3:30 3.9	9:37 12.1	16:07 4.0	22:03 11.0															
D	Tu	27	2:46 2.7	9:00 12.3	15:23 4.0	21:24 11.6	Th	27	3:19 3.5	9:33 12.0	15:59 4.2	22:00 11.1	S	27	4:22 4.3	10:25 11.8	17:00 4.1	23:00 11.0														
W	28	4:52 3.6	10:11 11.6	16:36 4.5	22:45 11.0	F	28	4:20 4.0	10:36 11.7	17:00 4.8	23:10 10.9	M	28	5:14 4.4	11:19 11.8	17:51 3.8	23:57 11.3															
Th	29	5:08 4.0	11:27 11.5	17:50 4.5	0.0	S	29	5:19 4.2	11:34 11.8	17:59 4.1	0.0	Tu	29	6:06 4.2	12:08 12.1	18:41 3.2	0.0															
A	F	30	0:04 11.1	6:10 4.0	12:35 11.9	18:49 4.0	S	30	0:10 11.1	6:13 4.0	12:25 11.9	18:47 3.6	W	30	0:47 11.8	6:56 3.7	12:57 12.7	19:27 2.4														
							M	31	1:00 11.6	7:00 3.7	13:08 12.4	19:29 2.9																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Panama Mean Local Civil, for the meridian 79° 32' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
S	Th	1	1:34 12.5	7:45 8.2	13:46 13.5	20:13 1.5	○	S	1	2:42 14.4	8:56 1.6	14:58 14.7	21:20 0.0	P	W	1	3:57 16.9	10:12 -0.9	16:17 16.7	22:33 -0.6									
	F	2	2:20 13.4	8:31 2.4	14:30 14.1	20:55 0.8		M	2	3:21 15.3	9:45 0.7	15:45 15.4	22:07 -0.7	E	Th	2	4:40 17.4	11:57 -1.4	17:02 17.0	23:18 -1.6									
	S	3	3:08 14.3	9:16 1.7	15:15 14.7	21:40 0.1	P	Tu	3	4:16 16.2	10:31 0.0	16:32 16.0	22:52 -1.0		F	3	5:24 17.5	11:42 -1.5	17:46 16.8										
	S	4	3:48 15.0	10:01 1.2	16:00 15.1	22:24 -0.3		W	4	5:01 16.7	11:19 -0.4	17:20 16.2	23:39 -1.0	S	4	6:02 -1.2	6:08 17.1	12:30 -1.1	18:32 16.2										
	M	5	4:31 15.6	10:48 0.8	16:45 15.4	23:10 -0.5	E	Th	5	5:46 16.8	12:05 -0.6	18:10 16.1		S	5	6:50 -0.3	6:54 16.3	13:17 -0.3	19:20 15.2										
P	Tu	6	5:18 15.9	11:35 0.5	17:32 15.5	23:56 -0.4		F	6	6:25 -0.7	6:32 16.6	12:57 -0.3	18:58 15.6	☾	M	6	1:40 0.8	7:43 15.2	14:10 0.8	20:13 14.1									
	W	7	6:04 15.9	12:24 0.5	18:21 15.2		S	7	1:14 0.0	7:21 16.0	13:43 0.2	19:49 14.8		Tu	7	2:36 2.1	8:38 14.0	15:09 1.9	21:12 12.9										
	Th	8	6:45 0.0	6:52 15.7	13:15 0.7	19:13 14.9	☾	S	8	2:08 0.8	8:12 15.2	14:39 1.0	20:40 14.0	N	W	8	3:42 3.2	9:45 12.8	16:18 2.7	22:34 12.2									
	F	9	1:35 0.6	7:45 15.3	14:10 1.0	20:06 14.2		M	9	3:01 1.8	9:08 14.2	15:38 1.8	21:43 13.1		Th	9	4:55 3.8	11:04 12.1	17:32 3.0	23:58 12.0									
	S	10	2:29 1.3	8:39 14.8	15:05 1.4	21:06 13.6		Tu	10	4:05 2.7	10:11 13.3	16:44 2.3	22:56 12.5	F	10	6:12 3.8	12:25 12.2	18:42 2.8											
C	S	11	3:28 1.9	9:38 14.2	16:06 1.8	22:11 13.1		W	11	5:13 3.3	11:22 12.8	17:53 2.4		S	11	1:11 12.5	7:20 3.4	13:33 12.7	19:42 2.2										
	M	12	4:31 2.4	10:40 13.7	17:10 2.0	23:21 12.9	N	Th	12	6:14 12.4	6:25 3.8	12:36 12.9	18:58 2.2	S	12	2:07 13.2	8:14 2.7	14:27 13.3	20:32 1.7										
	Tu	13	5:36 2.6	11:46 13.6	18:14 1.8			F	13	1:24 12.8	7:30 3.0	13:41 13.3	19:58 1.7	M	13	2:51 13.9	8:58 2.0	15:10 13.8	21:13 1.2										
	W	14	6:31 13.1	6:40 2.5	12:50 13.8	19:15 1.4		S	14	2:21 13.4	8:27 2.5	14:35 13.7	20:48 1.2	●	Tu	14	3:30 14.4	9:38 1.5	15:42 14.2	21:52 0.9									
	Th	15	1:34 13.5	7:41 2.2	13:50 14.1	20:10 1.0	●	S	15	3:10 14.0	9:15 2.0	15:23 14.1	21:34 0.8		W	15	4:03 14.8	10:13 1.1	16:20 14.5	22:28 0.8									
N	F	16	2:29 14.0	8:37 1.9	14:43 14.4	21:01 0.5		M	16	3:50 14.5	9:59 1.6	16:05 14.3	22:15 0.5	E	Th	16	4:32 15.0	10:46 0.9	16:50 14.5	22:58 0.9									
	S	17	3:20 14.4	9:27 1.6	15:33 14.6	21:50 0.2		Tu	17	4:29 14.8	10:39 1.3	16:43 14.4	22:53 0.6	A	F	17	5:00 15.0	11:17 0.9	17:18 14.3	23:30 1.2									
	S	18	4:05 14.7	10:13 1.4	16:17 14.8	22:33 0.2		W	18	5:05 14.9	11:15 1.2	17:18 14.3	23:28 0.8		S	18	5:28 14.8	11:50 1.1	17:45 14.1										
	M	19	4:46 14.8	10:58 1.4	17:00 14.5	23:16 0.4	A	Th	19	5:34 14.8	11:50 1.4	17:50 14.1		S	19	6:00 1.8	5:57 14.5	12:20 1.5	18:15 13.8										
	Tu	20	5:26 14.7	11:40 1.5	17:40 14.1	23:56 0.8	E	F	20	6:03 1.3	6:06 14.5	12:25 1.6	18:25 13.6	M	20	6:33 2.4	6:29 14.0	12:56 2.0	18:50 13.4										
A	W	21	6:05 14.4	12:20 1.8	18:19 13.7			S	21	6:37 1.9	6:37 14.2	13:00 2.1	18:52 13.1	Tu	21	1:16 3.0	7:04 13.5	13:38 2.6	19:30 12.9										
	Th	22	6:36 1.5	6:41 14.0	13:01 2.2	18:57 13.1		S	22	1:10 2.7	7:10 13.6	13:37 2.6	19:25 12.7	☾	W	22	1:48 3.6	7:47 12.8	14:25 3.1	20:29 12.4									
	F	23	1:15 2.2	7:20 13.5	13:43 2.7	19:35 12.5	☾	M	23	1:47 3.3	7:45 13.1	14:17 3.2	20:05 12.3	S	Th	23	2:43 4.2	8:40 12.2	15:30 3.6	21:27 12.0									
	S	24	1:55 3.0	7:58 13.0	14:25 3.2	20:13 11.9		Tu	24	2:28 3.9	8:25 12.5	15:05 3.6	21:06 11.8		F	24	3:53 4.5	9:50 11.8	16:38 3.6	22:45 11.9									
	S	25	2:36 3.7	8:37 12.5	15:11 3.6	20:59 11.5		W	25	3:18 4.5	9:17 12.0	16:05 3.8	22:00 11.6	S	25	5:15 4.2	11:12 11.9	17:50 3.1											
D	M	26	3:22 4.2	9:27 12.0	16:00 4.0	21:50 11.3		Th	26	4:26 4.6	10:25 11.8	17:12 3.6	23:15 11.7		S	26	6:01 12.6	6:25 3.3	12:28 12.6	18:55 2.1									
	Tu	27	4:14 4.5	10:12 11.8	16:55 3.9	22:50 11.3	S	F	27	5:40 4.3	11:40 12.0	18:18 3.0		M	27	1:07 13.8	7:25 2.0	13:32 13.9	19:50 0.9										
	W	28	5:13 4.5	11:11 11.9	17:53 3.5	23:56 11.6		S	28	6:27 12.3	6:47 3.5	12:49 12.7	19:20 2.0	Tu	28	2:00 15.0	8:18 0.6	14:25 15.2	20:40 -0.3										
	Th	29	6:15 4.2	12:16 12.3	18:50 2.8			S	29	1:29 13.5	7:46 2.4	13:48 13.8	20:12 0.9	○	W	29	2:48 16.2	9:05 -0.6	15:12 16.3	21:26 -1.2									
	F	30	6:58 12.4	7:13 3.5	13:14 13.0	19:43 1.9	○	M	30	2:23 14.7	8:38 1.1	14:42 14.9	21:02 -0.2	P	Th	30	3:34 17.1	9:52 -1.5	15:58 17.0	22:11 -1.6									
S	S	31	1:53 13.3	8:06 2.5	14:08 13.9	20:33 0.9		Tu	31	3:10 16.0	9:27 0.0	15:30 15.9	21:48 -1.0																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Panama Mean Local Civil, for the meridian 79° 32' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
	F	1	4:17 10:35 16:41 22:55 17.7 —2.0 17.3 —1.6		M	1	5:22 11:44 17:52 . . . 16.6 —1.3 16.1 . . .			W	1	5:50 12:15 18:24 . . . 15.3 —0.2 15.0 . . .		
	S	2	5:00 11:20 17:25 23:40 17.6 —1.9 17.0 —1.0		N Tu	2	0:06 6:07 12:31 18:40 0.2 15.8 —0.3 15.1			Th	2	0:40 6:39 13:05 19:04 1.4 14.3 0.9 14.1		
	S	3	5:43 12:05 18:10 . . . 17.1 —1.3 16.3 . . .		W	3	0:57 6:56 13:22 19:33 1.3 14.6 1.0 14.0			F	3	1:33 7:31 13:57 20:10 2.3 13.2 2.0 13.2		
	M	4	0:27 6:29 12:54 18:58 —0.1 16.2 —0.4 15.2		Th	4	1:54 7:52 14:20 20:33 2.5 13.2 2.2 12.9			S	4	2:32 8:30 14:55 21:08 3.1 12.2 3.0 12.5		
N	Tu	5	1:15 7:18 13:45 19:52 1.0 14.9 0.9 14.0		F	5	2:58 8:57 15:27 21:45 3.5 12.1 3.2 12.1			S	5	3:35 9:36 15:57 22:15 3.8 11.5 3.7 12.0		
U	W	6	2:13 8:13 14:45 20:55 2.3 13.5 2.1 12.8		S	6	4:11 10:18 16:37 23:03 4.1 11.4 3.7 11.9			E M	6	4:40 10:48 16:59 23:15 4.0 11.1 4.1 11.9		
	Th	7	3:20 9:22 15:54 22:12 3.5 12.3 3.1 12.0		S	7	5:25 11:41 17:47 . . . 4.1 11.4 3.7 . . .			A Tu	7	5:40 11:57 17:57 . . . 4.0 11.2 4.1 . . .		
	F	8	4:37 10:45 17:10 23:36 4.1 11.6 3.5 11.9		M	8	0:12 6:30 12:48 18:45 12.1 3.8 11.8 3.5			W	8	0:12 6:33 12:50 18:47 11.9 3.7 11.6 3.8		
	S	9	5:55 12:11 18:21 . . . 4.1 11.7 3.3 . . .		A Tu	9	1:05 7:20 13:38 19:35 12.7 3.2 12.3 3.0			Th	9	0:58 7:18 13:34 19:32 12.3 3.1 12.0 3.5		
	S	10	0:50 7:02 13:20 19:20 12.3 3.5 12.3 2.8		W	10	1:49 8:00 14:15 20:13 13.0 2.5 12.8 2.5			F	10	1:37 7:58 14:11 20:11 12.8 2.4 12.6 3.0		
	M	11	1:30 7:53 14:10 20:08 13.0 2.8 12.9 2.2		Th	11	2:22 8:36 14:50 20:47 13.5 1.8 13.4 2.1			S	11	2:13 8:35 14:45 20:50 13.4 1.7 13.2 2.5		
	Tu	12	2:25 8:34 14:47 20:47 13.7 2.1 13.5 1.7		F	12	2:53 9:08 15:19 21:22 14.0 1.2 13.8 1.8			S	12	2:48 9:12 15:18 21:27 13.9 1.0 13.9 2.1		
E A	W	13	3:00 9:10 15:20 21:23 14.1 1.5 14.0 1.4		S	13	3:23 9:41 15:47 21:55 14.3 0.8 14.2 1.6			M	13	3:25 9:50 15:55 22:06 14.4 0.5 14.5 1.7		
●	Th	14	3:31 9:43 15:52 21:55 14.4 1.0 14.3 1.2		S	14	3:53 10:15 16:18 22:28 14.7 0.5 14.6 1.6			S Tu	14	4:03 10:27 16:33 22:45 14.8 0.2 15.0 1.4		
	F	15	3:58 10:13 16:18 22:26 14.7 1.7 14.5 1.2		M	15	4:25 10:49 16:52 23:04 14.8 0.4 14.7 1.6			W	15	4:40 11:07 17:12 23:27 14.9 0.1 15.1 1.4		
	S	16	4:26 10:45 16:47 22:57 14.8 0.6 14.5 1.4		S Tu	16	4:58 11:25 17:27 23:42 14.7 0.5 14.7 1.8			Th	16	5:27 11:48 17:55 . . . 14.9 0.3 15.2 . . .		
	S	17	4:53 11:17 17:16 23:28 14.8 0.7 14.5 1.7		W	17	5:36 12:05 18:06 . . . 14.5 0.9 14.5 . . .			F	17	0:12 6:08 12:35 18:42 1.5 14.7 0.7 15.0		
	M	18	5:23 11:49 17:47 . . . 14.6 1.0 14.3 . . .		Th	18	0:25 6:20 12:48 18:53 2.2 14.1 1.5 14.1			S	18	1:02 6:56 13:23 19:32 1.7 14.2 1.2 14.6		
	Tu	19	0:02 5:57 12:06 18:24 2.1 14.3 1.5 14.0		F	19	1:13 7:06 13:39 19:47 2.6 13.5 2.1 13.7			D S	19	1:56 7:50 14:17 20:28 1.9 13.7 1.8 14.2		
S	W	20	0:39 6:36 13:08 19:07 2.7 13.8 2.1 13.5		D S	20	2:10 8:02 14:37 20:48 3.0 13.0 2.6 13.2			E M	20	2:56 8:50 15:18 21:27 2.2 13.2 2.3 13.9		
	Th	21	1:25 7:21 13:58 20:00 3.2 13.2 2.7 12.9		S	21	3:17 9:10 15:44 21:55 3.3 12.5 2.9 13.2			Tu	21	4:00 9:57 16:22 22:32 2.3 12.9 2.5 13.6		
D	F	22	2:22 8:17 14:58 21:05 3.7 12.5 3.2 12.5		M	22	4:37 10:26 16:53 23:05 3.1 12.5 2.7 13.3			W	22	5:03 11:08 17:30 23:37 2.3 12.9 2.4 13.8		
	S	23	3:33 9:28 16:08 22:22 4.1 12.0 3.4 12.4		E Tu	23	5:35 11:42 18:00 . . . 2.5 12.9 2.2 . . .			P Th	23	6:07 12:17 18:30 . . . 1.7 13.3 2.0 . . .		
	S	24	4:53 10:52 17:22 23:30 3.8 12.1 3.0 13.0		W	24	0:09 6:36 12:45 18:57 13.9 1.6 13.8 1.4			F	24	0:40 7:06 13:20 19:30 14.3 1.0 14.0 1.5		
	M	25	6:03 12:08 18:30 . . . 2.9 12.8 2.1 . . .		P Th	25	1:07 7:30 13:42 19:51 14.8 0.5 14.8 0.6			S	25	1:37 8:01 14:16 20:24 14.8 0.3 14.7 1.0		
	Tu	26	0:40 7:02 13:11 19:25 14.0 1.9 14.0 1.0		F	26	2:00 8:20 14:32 20:40 15.7 —0.5 15.6 0.0			U S	26	2:30 8:52 15:07 21:15 15.4 —0.4 15.2 0.6		
E P	W	27	1:35 7:55 14:04 20:15 15.0 0.3 15.2 0.0		U S	27	2:48 9:08 15:20 21:28 16.3 —1.2 16.2 —0.3			N M	27	3:22 9:40 15:55 22:04 15.7 —0.8 15.6 0.4		
U	Th	28	2:23 8:42 14:53 21:03 16.0 —0.8 16.2 —0.8		S	28	3:35 9:55 16:06 22:17 16.6 —1.6 16.4 —0.4			Tu	28	4:08 10:27 16:40 22:52 15.7 —0.9 15.7 0.5		
	F	29	3:10 9:28 15:37 21:48 16.8 —1.7 16.9 —1.2		N M	29	4:18 10:40 16:52 23:03 16.5 —1.5 16.2 0.0			W	29	4:53 11:12 17:24 23:37 15.5 —0.6 15.5 0.7		
	S	30	3:53 10:13 16:22 22:33 17.3 —2.0 17.0 —1.1		Tu	30	5:05 11:26 17:38 23:52 16.0 —1.0 15.8 0.6			Th	30	5:38 11:57 18:08 . . . 15.0 0.0 15.1 . . .		
	S	31	4:37 10:58 17:05 23:19 17.2 —2.0 16.8 —0.6							F	31	0:23 6:24 12:45 18:53 0.3 14.3 0.8 14.5		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Panama Mean Local Civil, for the meridian 79° 22' W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Mo.	Day of—	Time and Height of High and Low Water.								Mo.	Day of—	Time and Height of High and Low Water.								Mo.	Day of—	Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.9 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard 120th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A E O	Th	1	1:20 2.1	6:54 5.0	13:32 -0.1	20:08 4.9	E O C P N D A E	S	1	1:27 1.4	7:13 4.5	13:18 0.8	19:30 5.3	O S C E A D	Tu	1	1:51 0.4	8:03 4.0	13:15 1.7	19:26 5.8												
	F	2	1:51 1.7	7:35 5.2	14:02 0.0	20:29 5.1		S	2	1:51 1.0	7:41 4.6	13:43 1.0	19:52 5.4		W	2	2:25 0.0	8:45 3.9	13:42 1.9	19:55 6.0												
	S	3	2:18 1.4	8:12 5.2	14:24 0.3	20:41 5.2		M	3	2:13 0.7	8:18 4.6	14:04 1.2	20:12 5.5		Th	3	2:58 -0.4	9:28 3.7	14:12 2.0	20:26 6.2												
	S	4	2:42 1.1	8:40 5.1	14:53 0.6	21:05 5.3		Tu	4	2:40 0.4	8:52 4.5	14:25 1.4	20:32 5.6		F	4	3:38 -0.6	10:14 3.6	14:46 2.3	21:00 6.3												
	M	5	3:07 0.9	9:08 5.0	15:12 0.8	21:20 5.2		W	5	3:10 0.1	9:26 4.2	14:47 1.5	20:55 5.8		S	5	4:18 -0.8	11:03 3.5	15:23 2.3	21:37 6.2												
	Tu	6	3:34 0.7	9:38 4.9	15:32 1.0	21:36 5.2		Th	6	3:43 -0.1	10:01 3.9	15:11 1.9	21:20 5.8		S	6	5:03 -0.8	11:57 3.4	16:07 2.6	22:20 6.0												
	W	7	3:53 0.6	10:02 4.5	15:50 1.3	21:56 5.3		F	7	4:20 -0.1	10:44 3.6	15:37 2.2	21:49 5.8		M	7	5:53 -0.6	13:00 3.5	17:05 2.8	23:12 5.7												
	Th	8	4:26 0.5	10:36 4.1	16:10 1.6	22:19 5.3		S	8	5:03 -0.1	11:38 3.4	16:05 2.4	22:25 5.7		Tu	8	6:47 -0.4	14:02 3.7	18:25 2.9	23:47 5.9												
	F	9	5:06 0.6	11:18 3.7	16:32 2.0	22:49 5.3		S	9	5:55 0.0	12:52 3.2	16:46 2.8	23:12 5.5		W	9	9:17 5.2	17:45 -0.1	19:00 4.1	20:04 2.8												
	S	10	5:57 0.6	12:17 3.2	16:57 2.4	23:30 5.2		M	10	7:00 0.1	14:43 3.4	17:56 3.2	23:12 5.5		Th	10	1:39 4.7	8:47 0.3	15:48 4.6	21:38 2.4												
P E N D A	S	11	7:05 0.8	14:04 2.9	17:30 2.8	24:11 5.1	Tu	11	9:16 0.1	8:13 0.2	16:15 3.6	20:13 3.2	F	11	3:13 4.5	9:45 0.7	16:33 5.0	22:55 1.6														
	M	12	9:27 4.9	8:40 0.7	17:20 3.3	22:00 3.2	W	12	1:50 4.8	9:30 0.2	16:57 4.2	22:07 2.8	S	12	4:40 4.3	10:47 0.9	17:20 5.3	23:47 0.9														
	Tu	13	2:00 4.7	10:13 0.4	17:58 3.8	22:23 3.2	Th	13	3:37 4.6	10:35 0.3	17:28 4.7	23:18 2.1	S	13	5:54 4.5	11:43 1.1	18:00 5.7	24:11 1.1														
	W	14	3:57 4.8	11:20 0.0	18:25 4.2	23:38 2.6	F	14	5:02 4.8	11:28 0.4	18:00 5.2	23:12 2.1	M	14	9:43 0.2	6:57 4.4	12:27 1.4	18:38 6.1														
	Th	15	5:18 5.1	12:12 -0.2	18:50 4.8	24:11 5.1	S	15	6:12 1.2	6:07 4.9	12:17 0.6	18:35 5.5	Tu	15	1:33 -0.4	7:55 4.4	13:10 1.6	19:16 6.4														
	F	16	6:30 1.8	6:20 5.5	12:53 -0.3	19:17 5.3	S	16	6:53 0.5	7:03 5.2	13:02 0.6	19:10 5.9	W	16	2:20 -0.9	8:48 4.3	13:48 1.9	19:53 6.5														
	S	17	1:23 1.0	7:14 5.8	13:32 -0.2	19:45 5.7	M	17	1:38 -0.2	7:54 5.2	13:38 0.9	19:44 6.2	Th	17	3:05 -1.1	9:40 4.1	14:27 2.1	20:32 6.6														
	S	18	1:55 0.3	8:03 5.8	14:14 0.0	20:23 5.9	Tu	18	2:23 -0.7	8:44 5.0	14:14 1.2	20:18 6.5	F	18	3:51 -1.2	10:30 3.6	15:03 2.4	21:10 6.5														
	M	19	2:36 -0.1	8:48 5.9	14:50 0.3	20:53 6.1	W	19	3:07 -1.0	9:33 4.7	14:50 1.6	20:53 6.5	S	19	4:32 -1.1	11:20 3.7	15:44 2.6	21:50 6.1														
	Tu	20	3:12 -0.5	9:30 5.6	15:22 0.7	21:25 6.2	Th	20	3:52 -1.1	10:26 4.2	15:23 2.0	21:30 6.4	S	20	5:15 -0.8	12:13 3.7	16:28 2.8	22:30 5.8														
A E N D A	W	21	3:57 -0.7	10:20 5.0	15:55 1.2	21:59 6.2	F	21	4:40 -0.9	11:22 4.0	16:01 2.4	22:07 6.2	M	21	5:57 -0.5	13:07 3.8	17:22 2.9	23:12 5.2														
	Th	22	4:43 -0.6	11:12 4.4	16:30 1.8	22:25 6.0	S	22	5:28 -0.7	12:27 3.5	16:43 2.7	22:48 6.8	Tu	22	6:41 -0.1	14:02 3.9	18:28 3.1	23:58 4.9														
	F	23	5:37 -0.4	12:18 3.8	17:07 2.4	23:15 5.6	S	23	6:22 -0.4	13:45 3.6	17:37 3.1	23:35 5.2	W	23	7:21 0.4	14:45 4.2	19:54 3.2	24:11 5.1														
	S	24	6:37 0.0	13:48 3.5	17:53 2.8	24:11 5.1	M	24	7:20 0.0	15:08 3.8	19:04 3.4	23:12 5.1	Th	24	8:53 4.1	8:03 0.9	15:25 4.3	21:28 2.9														
	S	25	8:03 5.2	7:50 0.2	15:47 3.5	19:20 3.3	Tu	25	8:33 4.6	8:22 0.3	16:18 4.1	21:10 3.4	F	25	2:08 3.5	8:45 1.2	16:05 4.6	22:46 2.4														
	M	26	1:13 4.7	9:12 0.4	17:16 4.0	22:00 3.3	W	26	1:57 4.1	9:22 0.6	17:01 4.5	22:47 2.9	S	26	3:38 3.3	9:41 1.4	16:43 4.9	23:37 1.9														
	Tu	27	2:52 4.4	10:28 0.4	18:02 4.3	23:30 2.9	Th	27	3:33 3.8	10:17 0.9	17:27 4.7	23:42 2.4	S	27	5:00 3.2	10:32 1.6	17:17 5.0	24:11 5.1														
	W	28	4:27 4.2	11:25 0.4	18:33 4.7	24:11 5.1	F	28	4:50 3.8	10:59 1.1	17:52 4.9	24:11 5.1	M	28	6:15 1.4	6:08 3.3	11:16 1.9	17:47 5.3														
	Th	29	6:22 2.4	5:38 4.3	12:10 0.5	18:55 5.0	S	29	6:22 1.8	5:50 3.7	11:42 1.2	18:18 5.2	Tu	29	7:54 0.8	7:07 3.4	11:58 2.0	18:20 5.6														
	F	30	8:58 1.9	6:30 4.5	12:43 0.7	19:11 5.1	S	30	8:54 1.3	6:38 3.8	12:20 1.4	18:40 5.3	W	30	1:33 0.2	7:58 3.5	12:37 2.3	18:53 6.0														
							M	31	1:20 0.9	7:21 4.0	12:48 1.5	19:02 5.5																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.9 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S	Th	1	2:12 -0.3	8:42 3.7	13:15 2.3	19:31 6.3	☾	S	1	3:14 -1.3	9:47 4.0	14:37 2.0	20:46 6.8	E	W	1	4:00 -0.7	10:14 5.2	16:00 0.7	22:08 6.1												
	F	2	2:50 -0.8	9:28 3.6	13:55 2.3	20:10 6.5		M	2	3:52 -1.3	10:22 4.3	15:25 1.8	21:30 6.6		Th	2	4:34 -0.2	10:47 5.3	16:50 0.6	23:00 5.5												
	S	3	3:30 -1.1	10:12 3.8	14:37 2.4	20:50 6.6	P	Tu	3	4:30 -1.1	11:00 4.5	16:12 1.6	22:18 6.3		F	3	5:12 0.4	11:25 5.4	17:36 0.6	23:48 4.4												
	S	4	4:10 -1.2	10:54 3.7	15:25 2.4	21:33 6.5		W	4	5:08 -0.8	11:34 4.7	17:03 1.5	23:07 5.8		S	4	6:00 1.0	12:10 5.1	18:40 0.8	24:00 5.1												
	M	5	4:58 -1.2	11:40 3.8	16:14 2.4	22:21 6.2	E	Th	5	5:47 -0.1	12:13 4.8	18:03 1.5	23:57 5.8		S	5	6:56 4.1	6:45 1.8	13:02 5.1	20:04 0.8												
P	Tu	6	5:37 -0.9	12:24 4.1	17:12 2.4	23:14 5.8		F	6	6:03 5.1	6:29 0.6	12:59 5.0	19:06 1.5	☾	M	6	7:46 3.6	7:48 2.4	14:07 5.0	21:46 0.7												
	W	7	6:22 -0.5	13:08 4.2	18:20 2.3	23:57 5.8		S	7	1:16 4.4	7:26 1.2	13:52 4.9	20:24 1.4	N	Tu	7	5:00 3.5	9:24 2.8	15:35 5.0	23:16 0.2												
	Th	8	6:13 5.2	7:12 0.1	13:57 4.5	19:40 2.2	☾	S	8	2:38 3.9	8:27 1.8	14:55 5.0	22:02 1.0	W	8	6:23 3.9	11:08 2.8	16:55 5.1	23:57 5.1													
	F	9	1:25 4.6	8:02 0.6	14:50 4.8	21:07 1.8		M	9	4:32 3.6	9:41 2.2	16:05 5.2	23:30 0.5	Th	9	0:18 -0.2	7:15 4.1	12:16 2.6	18:00 5.4													
	S	10	2:53 4.1	9:06 1.1	15:45 5.0	22:20 1.4		Tu	10	6:09 3.7	10:58 2.4	17:11 5.6	23:57 1.0	F	10	1:06 -0.5	7:51 4.4	13:06 2.2	18:50 5.7													
E	S	11	4:28 4.0	10:12 1.5	16:38 5.3	23:37 0.7		W	11	6:34 -0.1	7:17 3.7	12:05 2.5	18:08 5.9	S	11	1:45 -0.6	8:22 4.6	13:44 1.9	19:32 5.8													
	M	12	5:52 3.8	11:10 1.8	17:30 5.7	24:00 0.0	N	Th	12	1:26 -0.6	8:07 3.9	12:58 2.3	18:57 6.1	S	12	2:18 -0.6	8:48 4.8	14:18 1.7	20:08 5.8													
	Tu	13	6:38 0.0	7:04 3.9	12:06 2.0	18:17 6.1		F	13	2:08 -0.9	8:47 4.1	13:43 2.2	19:38 6.2	M	13	2:46 -0.4	9:12 4.9	14:48 1.5	20:45 5.6													
	W	14	1:32 -0.6	8:04 3.8	12:55 2.1	19:02 6.4	☾	S	14	2:46 -1.0	9:22 4.3	14:23 2.1	20:17 6.2	●	Tu	14	3:10 -0.1	9:32 5.0	15:15 1.4	21:15 5.3												
	Th	15	2:18 -0.9	8:55 3.8	13:40 2.3	19:43 6.5	●	S	15	3:19 -0.9	9:52 4.4	14:57 2.1	20:52 6.1	E	W	15	3:31 0.3	9:46 5.0	15:43 1.2	21:42 5.0												
N	F	16	3:00 -1.1	9:40 4.0	14:20 2.3	20:22 6.5		M	16	3:48 -0.7	10:20 4.4	15:29 2.0	21:27 5.8	A	Th	16	3:57 0.7	10:08 5.0	16:12 1.2	22:12 4.7												
	S	17	3:40 -1.2	10:22 3.8	15:00 2.4	21:00 6.3		Tu	17	4:15 -0.3	10:44 4.5	16:03 1.9	22:00 5.4		F	17	4:17 1.0	10:28 4.9	16:37 1.1	22:38 4.3												
	S	18	4:17 -1.0	11:00 4.0	15:38 2.4	21:39 6.0		W	18	4:37 0.1	11:00 4.5	16:35 1.9	22:28 4.9	S	18	4:33 1.3	10:43 4.9	17:08 1.2	23:07 3.9													
	M	19	4:50 -0.7	11:37 4.0	16:17 2.5	22:15 5.6	A	Th	19	4:57 0.6	11:22 4.5	17:10 2.0	22:57 4.5	S	19	4:50 1.7	11:08 4.8	17:53 1.3	23:50 3.4													
	Tu	20	5:22 -0.3	12:10 4.1	17:02 2.5	22:51 5.1		F	20	5:19 0.9	11:47 4.6	17:45 2.0	23:37 4.1	M	20	5:09 2.1	11:43 4.7	19:00 1.4	24:00 5.1													
A	W	21	5:50 0.2	12:36 4.2	17:48 2.6	23:24 4.6		S	21	5:42 1.4	12:12 4.5	18:33 2.0	24:00 4.1		Tu	21	1:07 2.8	5:48 2.5	12:32 4.6	20:40 1.2												
	Th	22	6:15 0.6	13:08 4.3	18:45 2.7	24:00 4.6	☾	S	22	6:18 3.5	6:08 1.8	12:52 4.5	19:45 2.0	☾	W	22	5:45 3.0	7:27 2.9	14:12 4.6	22:24 0.8												
	F	23	6:03 4.1	6:43 1.0	13:47 4.4	19:56 2.6	☾	M	23	1:22 2.9	6:38 2.1	13:46 4.5	21:30 1.7	S	Th	23	6:28 3.4	9:47 3.2	15:47 4.8	23:32 0.3												
	S	24	1:00 3.6	7:23 1.4	14:28 4.5	21:03 2.4		Tu	24	4:20 2.7	7:30 2.6	14:58 4.6	23:03 1.1		F	24	6:45 3.9	11:26 2.9	17:08 5.2	23:57 5.1												
	S	25	2:25 3.1	8:07 1.8	15:17 4.6	22:28 2.0		W	25	6:23 2.9	9:34 2.8	16:17 5.0	23:57 1.1		S	25	6:20 -0.2	7:10 4.3	12:20 2.3	18:08 5.6												
D	M	26	4:18 2.9	9:00 2.1	16:08 4.8	23:40 1.4	S	Th	26	6:03 0.5	7:07 3.3	11:16 2.8	17:23 5.4		S	26	1:02 -0.6	7:34 4.8	13:02 1.7	19:00 6.0												
	Tu	27	6:00 2.8	10:12 2.3	17:00 5.2	24:00 1.4		F	27	6:53 -0.2	7:40 3.7	12:20 2.5	18:18 5.9		M	27	1:40 -0.7	8:04 5.2	13:43 1.0	19:47 6.3												
	W	28	6:30 0.7	7:07 3.3	11:21 2.5	17:47 5.6		S	28	1:33 -0.7	8:10 4.2	13:08 2.2	19:09 6.3		Tu	28	2:15 -0.7	8:30 5.5	14:23 0.5	20:32 6.3												
	Th	29	1:16 0.0	7:55 3.5	12:18 2.5	18:32 6.0		S	29	2:11 -1.1	8:40 4.4	13:52 1.7	19:55 6.6	☾	W	29	2:49 -0.4	9:00 5.8	15:05 0.1	21:16 6.1												
	F	30	1:55 -0.6	8:34 3.6	13:08 2.4	19:16 6.4	☾	M	30	2:48 -1.2	9:10 4.8	14:33 1.3	20:40 6.7	E	Th	30	3:29 0.0	9:36 5.8	15:47 -0.1	21:58 5.8												
S	S	31	2:34 -1.1	9:11 3.9	13:54 2.2	20:02 6.6	P	Tu	31	3:23 -1.0	9:43 5.0	15:15 1.0	21:23 6.5																			

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The time used is Pacific Standard, 120th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	4:05 0.5	10:08 5.8	16:28 -0.2	22:48 5.1	N C	M	1	4:41 2.2	10:51 5.9	18:14 -0.4	24:00 0.0	W A	W	1	1:09 3.5	5:12 2.9	11:16 5.5	18:55 -0.3												
	S	2	4:40 1.1	10:44 5.7	17:22 -0.1	23:45 4.3		Tu	2	1:20 3.5	5:30 2.8	11:40 5.4	19:24 0.0		Th	2	2:28 3.8	6:30 3.2	12:14 4.8	19:55 0.1												
	S	3	5:18 1.7	11:27 5.5	18:24 0.2	24:00 0.0		W	3	3:13 3.7	6:51 3.8	12:48 4.9	20:45 0.1		F	3	3:43 4.1	8:26 3.4	13:33 4.3	20:58 0.5												
	M	4	1:05 3.7	6:04 2.4	12:17 5.2	19:47 0.4		Th	4	4:43 3.9	9:22 3.3	14:23 4.5	22:01 0.2		S	4	4:36 4.5	10:20 2.9	15:10 3.9	21:56 1.0												
	Tu	5	3:13 3.5	7:17 2.9	13:25 5.0	21:22 0.3		F	5	5:35 4.4	11:04 2.8	16:04 4.3	23:08 0.3		S	5	5:10 4.7	11:26 2.3	16:37 3.7	22:44 1.2												
	W	6	5:08 3.8	9:26 3.2	15:00 4.7	22:48 0.1		S	6	6:10 4.8	12:08 2.3	17:20 4.4	23:51 0.4		M	6	5:39 5.0	12:14 1.7	17:46 3.6	23:30 1.3												
	Th	7	6:08 4.1	11:18 2.9	16:35 4.7	23:48 -0.1		S	7	6:35 5.1	12:43 1.7	18:18 4.5	24:00 0.0		Tu	7	6:10 5.2	12:51 1.2	18:38 3.7	24:00 0.0												
	F	8	6:48 4.6	12:18 2.4	17:44 4.7	24:00 0.0		M	8	0:27 0.7	6:55 5.3	13:14 1.2	19:01 4.5		W	8	0:10 1.5	6:34 5.4	13:19 0.8	19:19 3.8												
	S	9	0:34 -0.2	7:18 4.9	13:01 1.9	18:37 5.1		Tu	9	1:01 0.8	7:19 5.5	13:41 0.8	19:38 4.5		Th	9	0:40 1.7	6:55 5.6	13:49 0.4	20:00 3.7												
	S	10	1:10 -0.1	7:44 5.1	13:36 1.5	19:20 5.2		W	10	1:29 1.0	7:37 5.5	14:05 0.6	20:11 4.5		F	10	1:05 1.8	7:16 5.8	14:21 0.0	20:40 3.6												
	M	11	1:42 0.0	8:04 5.3	14:07 1.1	20:00 5.2		Th	11	1:49 1.3	7:57 5.7	14:33 0.3	20:47 4.3		S	11	1:30 2.0	7:44 6.0	14:52 -0.4	21:20 3.6												
	Tu	12	2:10 0.4	8:21 5.4	14:32 0.8	20:30 5.0		F	12	2:07 1.5	8:18 5.8	15:00 0.1	21:18 4.1		S	12	1:55 2.2	8:13 6.2	15:26 -0.6	22:00 3.6												
E A	W	13	2:35 0.7	8:49 5.3	14:59 0.7	21:00 4.9	E A	S	13	2:25 1.7	8:38 5.9	15:31 -0.1	21:51 3.8	S	M	13	2:24 2.2	8:44 6.3	16:02 -0.8	22:47 3.4												
	Th	14	2:58 0.9	9:01 5.4	15:16 0.6	21:26 4.6		S	14	2:45 1.9	9:00 5.9	16:05 -0.2	22:28 3.5		Tu	14	3:00 2.3	9:17 6.2	16:42 -0.8	23:27 3.3												
	F	15	3:10 1.1	9:15 5.4	15:44 0.5	21:51 4.3		M	15	3:05 2.1	9:27 5.9	16:45 -0.2	23:15 3.0		W	15	3:38 2.4	9:56 6.1	17:26 -0.6	24:00 0.0												
	S	16	3:25 1.4	9:36 5.4	16:12 0.5	22:24 3.9		Tu	16	3:35 2.4	10:00 5.8	17:33 -0.1	23:00 0.0		Th	16	0:21 3.4	4:28 2.7	10:41 5.7	18:14 -0.4												
	S	17	3:43 1.8	9:55 5.4	16:50 0.6	23:01 3.4		W	17	0:21 2.9	4:05 2.6	10:40 5.6	18:29 0.1		F	17	1:18 3.5	5:29 2.8	11:37 5.3	19:06 0.0												
	M	18	4:00 2.2	10:22 5.3	17:35 0.6	23:59 3.1		Th	18	2:06 3.3	4:58 2.7	11:33 5.2	19:39 0.2		S	18	2:14 3.9	7:05 2.8	12:49 4.8	20:05 0.4												
	Tu	19	4:20 2.5	10:55 5.2	18:39 0.7	24:00 0.0		F	19	3:50 3.6	7:05 3.3	12:58 4.7	20:53 0.4		S	19	3:11 4.3	8:51 2.6	14:21 4.3	21:04 0.8												
	W	20	2:10 2.9	4:45 2.8	11:45 4.9	20:09 0.7		S	20	4:21 4.0	9:29 3.1	14:51 4.5	22:01 0.5		M	20	4:01 4.8	10:21 1.9	16:01 4.0	22:14 1.1												
	Th	21	4:55 3.4	7:00 3.1	13:20 4.6	21:40 0.5		S	21	5:04 4.6	10:51 2.3	16:27 4.5	23:01 0.5		Tu	21	4:49 5.1	11:20 1.2	17:25 4.2	23:14 1.3												
	F	22	5:46 3.7	9:50 3.2	15:21 4.6	22:53 0.2		M	22	5:36 5.1	11:50 1.4	17:40 4.7	23:48 0.6		W	22	5:35 5.5	12:20 0.4	18:33 4.3	24:00 0.0												
	S	23	6:04 4.1	11:15 2.7	16:50 4.8	23:43 0.0		Tu	23	6:10 5.5	12:31 0.6	18:40 5.0	24:00 0.0		Th	23	0:01 1.5	6:17 6.0	13:15 -0.3	19:35 4.3												
	S	24	6:26 4.8	12:07 1.9	17:57 5.2	24:00 0.0		W	24	0:35 0.7	6:45 5.9	13:16 -0.1	19:30 5.0		F	24	0:48 1.7	6:57 6.4	14:01 -0.9	20:29 4.1												
E P	M	25	0:26 0.0	6:51 5.3	12:51 1.1	18:50 5.5	E P	Th	25	1:12 0.9	7:19 6.3	14:00 -0.7	20:20 4.9	O N	S	25	1:30 1.9	7:36 6.7	14:48 -1.3	21:19 4.0												
	Tu	26	1:04 0.0	7:19 5.7	13:31 0.3	19:40 5.7		F	26	1:50 1.2	7:55 6.6	14:46 -1.1	21:13 4.7		S	26	2:09 2.0	8:16 6.8	15:30 -1.6	22:06 3.9												
	W	27	1:47 0.2	7:56 5.9	14:09 -0.2	20:21 5.7		S	27	2:25 1.5	8:30 6.8	15:30 -1.3	22:01 4.2		M	27	2:49 2.2	8:54 6.7	16:14 -1.4	22:54 3.8												
	Th	28	2:20 0.4	8:26 6.2	14:50 -0.7	21:09 5.5		S	28	3:00 1.8	9:08 6.7	16:18 -1.3	22:57 3.9		Tu	28	3:29 2.4	9:37 6.5	16:55 -1.1	23:40 3.9												
	F	29	2:54 0.7	8:59 6.4	15:34 -0.9	21:58 5.0		M	29	3:38 2.2	9:47 6.5	17:08 -1.0	23:58 3.7		W	29	4:11 2.5	10:16 6.1	17:37 -0.8	24:00 0.0												
	S	30	3:29 1.2	9:32 6.4	16:22 -0.9	22:50 4.4		Tu	30	4:20 2.6	10:30 6.1	17:58 -0.7	24:00 0.0		Th	30	0:30 3.9	5:00 2.7	11:00 5.5	18:17 -0.3												
	S	31	4:04 1.7	10:10 6.2	17:14 -0.7	23:55 3.8									F	31	1:21 3.9	6:00 2.8	11:46 4.9	18:58 0.3												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 2.9 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
	F 1	0:28	7:10	13:56	20:45		M 1	2:00	8:10	15:30	22:45	N	M 1	0:52	6:56	14:15	21:36
		1.9	5.8	0.7	4.2			3.2	5.9	-0.5	4.3			3.3	5.5	-0.1	4.5
	S 2	1:22	7:52	14:52	21:52	N	Tu 2	2:58	8:58	16:15	23:32		Tu 2	2:04	7:55	15:06	22:20
		2.4	6.0	0.0	4.3			3.2	5.9	-0.7	4.4			3.3	5.5	-0.3	4.5
	S 3	2:15	8:35	15:42	22:50		W 3	3:50	9:44	16:54			W 3	3:08	8:48	15:48	23:00
		2.7	6.2	-0.5	4.3			3.2	6.0	-0.8				3.3	5.5	-0.3	4.9
	M 4	3:05	9:15	16:28	23:46		Th 4	0:14	4:36	10:25	17:30		Th 4	3:50	9:36	16:25	23:34
		3.2	6.6	-0.9	4.4			4.6	3.2	5.8	-0.7			3.1	5.6	-0.3	4.9
N	Tu 5	3:55	9:55	17:16		O	F 5	0:52	5:24	11:10	18:05		F 5	4:30	10:20	16:57	
		3.2	6.3	-1.1				4.7	3.2	5.5	-0.5			2.9	5.5	-0.2	
O	W 6	0:35	4:45	10:35	17:54		S 6	1:25	6:05	11:54	18:36	O	S 6	0:04	5:08	11:00	17:30
		4.6	3.2	6.2	-1.1			4.9	3.0	5.4	-0.2			5.1	2.5	5.4	0.1
	Th 7	1:25	5:35	11:19	18:34	A	S 7	1:55	6:50	12:34	19:08	A	S 7	0:28	5:45	11:45	18:00
		4.6	3.3	5.8	-0.9			5.0	2.8	5.1	0.2			5.1	2.2	5.2	0.5
	F 8	2:08	6:25	12:00	19:09		M 8	2:20	7:30	13:14	19:45	E	M 8	0:50	6:20	12:24	18:39
		4.8	3.4	5.5	-0.7			4.9	2.7	4.7	0.7			5.0	2.0	4.9	0.8
	S 9	2:50	7:14	12:42	19:45	E	Tu 9	2:50	8:15	13:56	20:20		Tu 9	1:14	6:58	13:00	19:08
		4.9	3.4	5.2	-0.3			4.9	2.5	4.4	1.1			5.0	1.8	4.7	1.3
	S 10	3:25	8:04	13:23	20:20		W 10	3:12	9:05	14:54	20:52		W 10	1:30	7:40	13:42	19:38
		5.0	3.2	4.8	0.2			4.9	2.3	4.0	1.6			5.0	1.6	4.4	1.7
A	M 11	3:56	9:00	14:10	20:58		Th 11	3:30	10:00	15:50	21:28		Th 11	1:47	8:22	14:42	20:14
		5.0	3.2	4.4	0.6			4.9	2.0	3.7	2.0			4.9	1.3	4.2	2.1
	Tu 12	4:27	9:55	15:10	21:40		F 12	3:56	10:45	17:20	22:12		F 12	2:10	9:04	15:52	20:55
		5.0	2.9	3.9	1.1			5.0	1.6	3.6	2.4			4.9	1.1	3.8	2.5
E	W 13	5:00	10:55	16:32	22:17	C	S 13	4:32	11:46	18:02	23:12		S 13	2:44	10:02	17:25	21:45
		5.0	2.6	3.6	1.2			5.1	1.1	3.7	2.8			5.0	0.9	3.8	3.0
C	Th 14	5:25	11:52	18:02	23:00		S 14	5:18	12:48	20:27		C	S 14	3:25	11:05	19:00	22:50
		5.0	2.2	3.6	2.0			5.3	0.6	3.9				5.0	0.7	3.9	3.2
	F 15	5:52	12:30	19:16	23:47		M 15	0:14	6:16	13:47	21:25		M 15	4:28	12:12	20:08	
		5.1	1.6	3.6	2.4			3.1	5.5	0.0	4.2			5.1	0.3	4.2	
	S 16	6:24	13:28	20:35		S	Tu 16	1:24	7:19	14:40	22:11	S	Tu 16	0:02	5:48	13:15	20:57
		5.4	0.9	3.8				3.2	5.8	-0.5	4.4			3.3	5.2	0.0	4.5
	S 17	0:47	7:04	14:18	21:40		W 17	2:25	8:20	15:30	22:52		W 17	1:18	7:04	14:10	21:35
		2.8	5.6	0.2	4.0			3.2	6.0	-0.9	4.5			3.2	5.5	-0.3	4.7
	M 18	1:45	7:47	15:08	22:32		Th 18	3:23	9:17	16:17	23:30		Th 18	2:20	8:12	15:04	22:10
		3.0	5.8	-0.4	4.2			3.0	6.2	-1.1	4.9			2.9	5.7	-0.5	5.1
	Tu 19	2:40	8:36	15:53	23:20		F 19	4:16	10:14	17:00			F 19	3:15	9:15	15:50	22:48
		3.1	6.1	-1.0	4.4			2.6	6.3	-1.2				2.4	5.9	-0.5	5.4
S	W 20	3:35	9:23	16:40		P	S 20	0:05	5:08	11:05	17:46		S 20	4:06	10:08	16:35	23:16
		3.1	6.2	-1.3				5:2	2.3	6.2	-0.9			1.8	6.0	-0.4	5.6
●	Th 21	0:05	4:28	10:15	17:25		S 21	0:40	6:00	12:00	18:30	P	S 21	4:55	11:02	17:20	23:52
		4.5	3.2	6.3	-1.5			5.4	1.9	6.0	-0.5			1.3	6.0	0.0	5.7
	F 22	0:46	5:20	11:05	18:10	E	M 22	1:18	6:54	12:55	19:12	E	M 22	5:45	11:58	18:08	
		4.8	2.9	6.2	-1.4			5.5	1.6	5.7	0.1			0.8	5.8	0.5	
F	S 23	1:27	6:15	12:00	18:55		Tu 23	1:56	7:47	13:54	20:04		Tu 23	0:25	6:35	12:56	18:50
		5.0	2.6	6.1	-1.1			5.5	1.3	5.2	0.8			5.7	0.6	5.5	1.0
	S 24	2:06	7:10	12:55	19:40		W 24	2:35	8:46	15:04	20:50		W 24	1:04	7:20	14:00	19:35
		5.2	2.6	5.7	-0.6			5.5	1.1	4.8	1.5			5.7	0.3	5.1	1.6
	M 25	2:47	8:08	13:55	20:25		Th 25	3:17	9:40	16:25	21:38		Th 25	1:42	8:15	15:10	20:20
		5.3	2.4	5.3	0.1			5.5	1.0	4.4	2.1			5.7	0.2	4.7	2.2
E	Tu 26	3:28	9:10	15:08	21:20	D	F 26	4:04	10:54	18:04	22:35		F 26	2:24	9:16	16:35	21:10
		5.4	2.1	4.8	0.7			5.5	0.7	4.0	2.7			5.6	0.2	4.4	2.8
	W 27	4:12	10:20	16:30	22:08		S 27	4:55	12:05	19:28	23:36		S 27	3:14	10:24	18:02	22:15
		5.5	1.7	4.3	1.5			5.4	0.5	4.1	3.1			5.5	0.2	4.3	3.2
D	Th 28	4:56	11:20	17:56	23:00		S 28	5:56	13:16	20:40		N	S 28	4:08	11:32	19:17	23:32
		5.5	1.4	4.1	2.1			5.4	0.2	4.2				5.2	0.2	4.3	3.5
	F 29	5:44	12:34	19:30	23:55								M 29	5:20	12:42	20:18	
		5.6	0.9	4.0	2.6									5.1	0.2	4.6	
	S 30	6:32	13:40	20:46									Tu 30	1:00	6:34	13:40	21:05
		5.7	0.4	4.1										3.4	5.0	0.1	4.8
	S 31	0:58	7:20	14:40	21:50								W 31	2:10	7:40	14:28	21:44
		3.1	5.8	-0.1	4.2									3.2	5.0	0.2	5.0

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	2:58 2.9	8:35 5.1	15:08 0.2	22:14 5.2	E	S	1	8:16 2.0	9:18 4.6	15:05 1.2	21:45 5.3	O	Tu	1	8:45 0.5	10:38 4.4	15:25 2.3	21:30 5.7												
	F	2	3:40 2.6	9:25 5.1	15:45 0.4	22:40 5.3		S	2	8:48 1.5	10:04 4.6	15:40 1.5	22:08 5.4		W	2	4:22 0.0	11:25 4.4	16:05 2.6	22:00 5.8												
	S	3	4:14 2.1	10:14 5.1	16:20 0.7	23:05 5.3		M	3	4:20 1.1	10:45 4.8	16:10 1.7	22:24 5.5		Th	3	5:00 -0.5	12:15 4.5	16:45 3.0	22:34 5.9												
	S	4	4:46 1.7	10:55 5.0	16:58 0.9	23:26 5.3		Tu	4	4:46 0.7	11:28 4.7	16:45 2.0	22:47 5.5		F	4	5:44 -0.8	13:06 4.5	17:25 3.2	23:05 6.0												
	M	5	5:20 1.4	11:32 4.9	17:28 1.3	23:48 5.2		W	5	5:21 0.3	12:15 4.7	17:20 2.3	23:15 5.5		S	5	6:25 -0.9	14:00 4.5	18:14 3.8	23:40 5.9												
E	Tu	6	5:55 1.1	12:15 4.9	17:56 1.6	O	Th	6	6:00 0.0	13:08 4.6	17:55 2.7	23:38 5.5	S	6	7:10 -0.9	14:54 4.6	19:06 3.5	M	7	0:20 5.7	7:56 -0.8	15:45 4.5	20:07 3.5									
	W	7	0:02 5.2	6:26 0.8	13:00 4.7		18:30 2.0	F	7	6:40 -0.2	14:04 4.5	18:35 3.2	M	7	0:20 5.7	7:56 -0.8	15:45 4.5		20:07 3.5													
	Th	8	0:26 5.1	7:00 0.6	13:53 4.4		19:04 2.4	S	8	0:02 5.6	7:26 -0.3	15:04 4.6	19:12 3.8	Tu	8	1:10 5.4	8:45 -0.5		16:35 4.8	21:15 3.4												
	F	9	0:50 5.2	7:45 0.5	14:54 4.2		19:42 2.8	S	9	0:32 5.5	8:14 -0.3	16:08 4.6	20:15 3.5	W	9	2:15 5.1	9:40 -0.2		17:20 5.0	22:28 3.2												
	S	10	1:13 5.2	8:35 0.3	16:10 4.0		20:22 3.2	M	10	1:13 5.3	9:08 -0.2	17:10 4.7	21:20 3.7	Th	10	3:44 4.6	10:32 0.3		18:04 5.2	23:42 2.6												
S	S	11	1:45 5.2	9:30 0.3	17:32 4.2	21:28 3.5	Tu	11	2:10 5.1	10:05 -0.1	18:05 4.7	22:40 3.5	F	11	5:25 4.3	11:35 0.8	18:40 5.4	C	12	0:50 1.9	6:55 4.2	12:30 1.8	19:15 5.6									
	M	12	2:32 5.1	10:32 0.2	18:42 4.3	22:35 3.6	W	12	3:35 4.7	11:02 0.1	18:50 5.0	E	S	12	0:50 1.9	6:55 4.2	12:30 1.8		19:15 5.6													
	Tu	13	3:50 5.0	11:35 0.2	19:34 4.5	C	Th	13	0:00 3.2	5:26 4.5	12:02 0.4	19:30 5.2	S	13	1:42 1.2	8:10 4.4	13:24 1.7		19:56 5.9													
	W	14	0:02 3.5	5:30 4.9	12:38 0.1		20:15 4.8	F	14	1:06 2.5	6:58 4.6	13:08 0.7	20:04 5.4	M	14	2:32 0.4	9:20 4.5		14:12 2.1	20:35 6.1												
	Th	15	1:15 3.1	7:00 5.1	13:36 0.1		20:48 5.1	S	15	2:08 1.8	8:10 4.7	14:00 1.0	20:40 5.6	Tu	15	3:24 -0.2	10:24 4.6		15:04 2.4	21:14 6.4												
F	16	2:14 2.4	8:08 5.3	14:30 0.2	21:24 5.4		S	16	2:55 1.0	9:12 5.0	14:50 1.3	21:14 5.9	W	16	4:14 -0.8	11:24 4.5	15:51 2.8	21:54 6.5														
P	S	17	3:05 1.7	9:12 5.4	15:25 0.4		21:56 5.7	M	17	3:35 0.3	10:12 5.1	15:35 1.7	21:50 6.1	Th	17	5:00 -1.2	12:20 4.6	16:40 3.2	22:34 6.4	N	18	5:48 -1.8	13:15 4.5	17:28 3.8	23:15 6.8							
	S	18	3:55 1.0	10:08 5.5	16:10 0.7	22:30 5.8	Tu	18	4:22 -0.3	11:14 5.0	16:20 2.0	22:25 6.3	F	18	5:48 -1.8	13:15 4.5	17:28 3.8	23:15 6.8														
	M	19	4:42 0.4	11:05 5.6	16:52 1.0	23:05 6.0	W	19	5:10 -0.7	12:14 5.0	17:04 2.4	23:04 6.8	S	19	6:34 -1.3	14:08 4.6	18:18 3.4	A	20		0:00 6.0	7:18 -1.1	15:00 4.7	19:15 3.5								
	Tu	20	5:23 0.0	12:04 5.4	17:36 1.5	23:40 6.1	Th	20	6:00 -1.0	13:15 4.8	17:50 2.8	23:42 6.2	S	20	0:00 6.0	7:18 -1.1	15:00 4.7		19:15 3.5													
	W	21	6:10 -0.3	13:04 5.3	18:18 2.0	N	F	21	6:48 -1.1	14:16 4.6	18:38 3.2	M	21	0:45 5.6	8:02 -0.7	15:48 4.8	20:12 3.5															
Th	22	0:20 6.0	7:02 -0.5	14:07 4.9	19:02 2.4		S	22	0:25 5.9	7:40 -0.9	15:20 4.6	19:30 3.4	Tu	22	1:34 5.2	8:44 -0.2	16:32 4.9		21:20 3.5													
F	23	1:00 5.9	7:55 -0.5	15:20 4.5	19:53 3.0		S	23	1:10 5.7	8:27 -0.7	16:20 4.7	20:32 3.6	W	23	2:28 4.6	9:25 0.3	17:10 5.1		22:30 3.3													
S	24	1:44 5.6	8:53 -0.3	16:35 4.5	20:50 3.3		M	24	1:56 5.2	9:20 -0.3	17:18 4.7	21:48 3.7	Th	24	3:40 4.1	10:10 0.7	17:47 5.2	23:38 2.9														
S	25	2:30 5.4	9:54 -0.1	17:46 4.6	22:02 3.6		Tu	25	3:00 4.7	10:10 0.1	18:08 4.9	23:15 3.6	F	25	5:00 3.7	10:58 1.2	18:22 5.3	D	26	0:36 2.5	6:21 3.6	11:40 1.6	18:52 5.2									
M	26	3:33 4.9	10:55 0.1	18:50 4.6	23:35 3.6	W	26	4:20 4.2	11:00 0.5	18:50 5.2	Th	26	0:34 3.2	5:45 4.1	11:50 0.9	19:22 5.3																
Tu	27	4:52 4.7	11:55 0.3	19:40 4.9	A	Th	27	0:34 3.2	5:45 4.1	11:50 0.9	19:22 5.3	S	27	1:24 1.9	7:34 3.6	12:22 1.9	19:18 5.4															
W	28	1:00 3.4	6:12 4.5	12:48 0.5		20:18 5.1	F	28	1:30 2.7	6:58 4.0	12:45 1.2	19:54 5.6	M	28	1:58 1.4	8:40 3.8	13:07 2.8		19:45 5.6													
Th	29	2:00 3.0	7:24 4.5	13:35 0.7		20:50 5.3	S	29	2:10 2.1	8:00 4.0	13:28 1.5	20:22 5.4	Tu	29	2:35 0.7	9:36 3.9	13:56 2.6		20:14 5.8													
F	30	2:42 2.4	8:25 4.5	14:24 1.0		21:17 5.3	S	30	2:45 1.6	9:00 4.1	14:08 1.8	20:45 5.5	W	30	3:18 0.1	10:30 4.2	14:45 2.8	20:47 5.9														
A							M	31	3:10 1.1	9:48 4.3	14:45 2.1	21:06 5.6																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
Z	Th	1	4:00	11:22 15:25 21:30	○	S	1	5:05	12:20 16:55 22:51	E	W	1	6:03	12:42 18:25 . . .
	F	2	—0.5	4.3 3.2 6.1	P	M	2	—1.3	4.9 3.6 6.3		Th	2	—0.3	5.5 1.4 . . .
	S	3	4:42	12:10 16:14 22:12		Tu	3	5:48	12:55 17:45 23:44		F	3	0:33	6:50 13:18 19:18
	S	4	—0.9	4.5 3.2 6.2		W	4	—1.2	5.1 2.7 6.1		S	4	5:7	0.2 5.5 1.1
	M	5	5:26	12:55 17:05 22:55		Th	5	6:30	13:33 18:40 . . .		S	5	1:32	7:35 13:56 20:10
P	Tu	6	—1.2	4.6 3.2 6.2	E	F	6	—1.0	5.2 2.5 . . .	C	M	6	5:3	0.9 5.5 0.9
	W	7	6:10	13:38 17:55 23:40		S	7	0:38	7:15 14:10 19:36		Tu	7	2:38	8:18 14:35 21:06
	Th	8	—1.3	4.7 3.3 6.1		Tu	10	5.8	—0.5 5.3 2.2		W	8	4.9	1.5 5.5 0.7
	M	5	6:54	14:20 18:50 . . .		W	4	1:34	7:58 14:50 20:35		Th	9	3:57	9:05 15:21 22:15
	Tu	6	—1.2	4.8 3.2 . . .		Th	5	5.4	0.1 5.3 1.9		F	10	4.5	2.2 5.5 0.6
C	W	7	0:30	7:40 15:00 19:52	C	S	8	2:40	8:48 15:30 21:40	N	Th	9	5:30	10:58 16:13 23:28
	Th	8	5.8	—0.9 5.0 3.1		Tu	10	4.9	0.8 5.4 1.6		W	8	4.1	2.9 5.5 0.4
	F	9	1:30	8:24 15:42 20:55		W	4	3:50	9:34 16:15 22:40		Th	9	6:58	11:02 17:16 . . .
	S	10	5.4	—0.4 5.2 2.9		Th	5	4.4	1.5 5.4 1.3		F	10	4.1	3.2 5.4 . . .
	M	11	2:38	9:12 16:25 22:05		F	6	5:22	10:20 17:00 23:55		S	11	0:42	8:11 12:18 18:25
N	Tu	12	4.9	0.1 5.2 2.5	N	S	7	4.2	2.1 5.5 0.9	A	Th	9	0.2	4.3 3.4 5.4
	W	13	3:56	10:05 17:08 23:18		Tu	10	6:57	11:20 17:53 . . .		W	8	1:48	9:08 13:37 19:30
	Th	14	4.4	0.8 5.4 2.0		W	4	4.0	2.6 5.7 . . .		F	10	0.0	4.5 3.4 5.4
	F	9	5:26	10:56 17:50 . . .		Th	5	1:07	8:17 12:20 18:47		S	11	2:43	9:54 14:42 20:30
	S	10	4.1	1.4 5.5 . . .		F	6	0.4	4.0 3.0 5.8		Th	9	—0.2	4.7 3.2 5.5
A	M	11	0:15	6:55 11:47 18:34	A	S	8	2:01	9:25 13:25 19:43	E	Th	9	3:30	10:32 15:33 21:24
	Tu	12	1.5	4.1 2.0 5.7		Tu	10	—0.1	4.2 3.3 5.9		W	8	—0.3	4.8 3.0 5.6
	W	13	1:25	8:15 12:40 19:18		W	4	3:07	10:20 14:30 20:37		Th	9	4:08	11:06 16:16 22:12
	Th	14	0.8	4.0 2.4 5.9		Th	5	—0.4	4.4 3.3 6.0		F	10	—0.2	5.1 2.7 5.5
	F	9	2:25	9:26 13:37 20:04		F	6	3:55	11:05 15:28 21:28		S	11	4:43	11:36 16:55 22:57
E	S	10	0.1	4.1 2.7 6.1	E	S	7	—0.7	4.5 3.2 6.0	C	Th	9	0.0	5.2 2.3 5.4
	M	11	3:20	10:28 14:34 20:50		Tu	10	4:37	11:46 16:18 22:15		W	8	5:14	12:01 17:33 23:40
	Tu	12	—0.5	4.3 3.1 6.3		W	4	—0.8	4.7 3.1 6.0		Th	9	0.3	5.2 2.0 5.2
	W	13	4:10	11:24 15:26 21:35		Th	5	5:16	12:23 17:05 23:02		F	10	5:51	12:25 18:10 . . .
	Th	14	—0.9	4.3 3.2 6.3		F	6	—0.7	4.9 2.9 5.9		S	11	0.6	5.1 1.8 . . .
C	F	9	4:55	12:11 16:20 22:21	C	S	8	5:50	12:58 17:48 23:47	N	Th	9	0:20	6:22 12:48 18:47
	S	10	—1.1	4.5 3.3 6.3		Tu	10	—0.5	4.9 2.8 5.5		W	8	4.9	1.1 5.1 1.6
	M	11	5:38	12:56 17:10 23:05		W	4	6:23	13:27 18:32 . . .		Th	9	1:00	6:50 13:06 19:25
	Tu	12	—1.2	4.6 3.3 6.1		Th	5	—0.2	5.0 2.6 . . .		F	10	4.6	1.6 4.9 1.4
	W	13	6:17	13:40 18:00 23:54		F	6	0:32	6:54 13:52 19:15		S	11	1:46	7:18 13:25 19:58
N	Th	14	—1.0	4.7 3.3 5.8	N	S	7	5.2	0.3 5.0 2.4	A	Th	9	4.4	1.9 4.9 1.2
	F	9	6:56	14:20 18:50 . . .		Tu	10	1:17	7:31 14:20 20:00		W	8	2:40	7:50 13:48 20:45
	S	10	—0.8	4.9 3.2 . . .		W	4	4.8	0.8 5.0 2.3		Th	9	4.1	2.3 4.9 1.1
	M	11	0:42	7:32 14:55 19:42		Th	5	2:02	8:02 14:44 20:48		F	10	3:47	8:23 14:19 21:40
	Tu	12	5.4	—0.4 4.9 3.2		F	6	4.4	1.2 4.9 2.1		S	11	3.8	2.7 4.9 1.0
A	W	13	1:30	8:05 15:26 20:37	A	S	7	2:47	8:30 15:05 21:32	C	Th	9	5:13	9:10 14:57 22:38
	Th	14	5.0	0.2 5.0 3.0		Tu	10	4.0	1.7 4.8 1.9		W	8	3.7	3.2 4.9 0.8
	F	9	2:20	8:42 16:00 21:34		W	4	3:48	9:00 15:33 22:22		Th	9	6:41	10:12 15:57 23:42
	S	10	4.5	0.7 5.0 2.8		Th	5	3.7	2.2 4.9 1.6		F	10	3.8	3.3 4.9 0.5
	M	11	3:18	9:20 16:32 22:34		F	6	5:18	9:45 16:07 23:25		S	11	7:43	11:30 17:18 . . .
C	Tu	12	4.0	1.1 5.0 2.6	C	S	8	3.5	2.5 4.9 1.3	N	Th	9	4.2	3.4 5.0 . . .
	W	13	4:30	9:55 17:00 23:25		Tu	10	6:56	10:38 16:53 . . .		W	8	0:45	8:28 12:47 18:40
	Th	14	3.7	1.6 5.0 2.2		W	4	3.5	2.9 5.0 . . .		Th	9	0.3	4.4 3.4 5.1
	F	9	5:45	10:30 17:32 . . .		Th	5	0:26	8:08 11:43 17:52		F	10	1:43	9:04 13:54 19:52
	S	10	3.5	2.1 5.1 . . .		F	6	0.8	3.7 3.2 5.2		S	11	0.0	4.7 3.0 5.4
N	M	11	0:17	7:10 11:15 18:05	N	S	7	1:25	9:02 12:53 18:57	C	Th	9	2:30	9:38 14:51 20:53
	Tu	12	1.7	3.5 2.5 5.2		Tu	10	0.3	4.1 3.3 5.5		W	8	—0.2	5.0 2.5 5.6
	W	13	1:12	8:22 12:15 18:45		W	4	2:18	9:47 14:00 20:00		Th	9	3:22	10:10 15:42 21:49
	Th	14	1.1	3.6 2.8 5.4		Th	5	—0.2	4.4 3.2 5.7		F	10	—0.2	5.3 1.8 5.7
	F	9	2:05	9:25 13:12 19:30		F	6	3:08	10:26 15:00 21:00		S	11	4:08	10:45 16:30 22:44
A	S	10	0.5	3.8 3.1 5.7	A	S	7	—0.6	4.7 3.0 6.0	E	Th	9	—0.1	5.5 1.2 5.8
	M	11	2:52	10:15 14:10 20:18		Tu	10	3:55	11:00 15:53 21:55		W	8	4:57	11:18 17:20 23:40
	Tu	12	—0.1	4.1 3.2 5.9		W	4	—0.8	4.9 2.6 6.1		Th	9	0.2	5.7 0.7 5.7
	W	13	3:40	11:00 15:08 21:10		Th	5	4:38	11:34 16:43 22:48		F	10	5:40	11:53 18:07 . . .
	Th	14	—0.7	4.3 3.2 6.1		F	6	—0.9	5.2 2.2 6.1		S	11	0.6	5.7 0.4 . . .
S	F	9	4:22	11:42 16:00 22:00	S	S	7	5:22	12:07 17:33 23:40	P	Th	9		
	S	31	—1.1	4.7 3.2 6.2		Tu	31	—0.7	5.4 1.8 6.0					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th Meridian, W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.									W.	Mo.									W.	Mo.										
N	F	1	0:38 5.5	6:20 1.1	12:30 5.7	18:53 0.1				M	1	2:57 4.6	7:22 2.9	13:17 5.8	20:28 -0.7				N	W	1	3:50 4.6	8:05 3.6	13:43 5.4	20:58 -0.6							
	S	2	1:39 5.2	7:03 1.7	13:10 5.7	19:47 -0.1				Tu	2	4:08 4.7	8:18 3.3	14:05 5.5	21:28 -0.4					Th	2	4:45 5.0	9:17 3.6	14:47 4.9	21:49 -0.1							
	S	3	2:47 4.8	7:48 2.3	13:50 5.6	20:47 -0.1				W	3	5:16 4.6	9:29 3.5	15:09 5.1	22:27 -0.1					F	3	5:35 5.0	10:40 3.5	16:03 4.5	22:38 0.4							
	M	4	4:07 4.5	8:38 2.9	14:40 5.5	21:53 0.0				☾	Th	4	6:17 4.8	10:58 3.6	16:27 4.7	23:28 0.1					☾	S	4	6:16 5.3	12:03 3.2	17:25 4.2	23:27 0.9					
	Tu	5	5:30 4.5	9:40 3.2	15:37 5.3	23:00 0.0				F	5	7:10 4.9	12:30 3.4	17:50 4.4						S	5	6:53 5.3	13:10 2.7	18:41 3.9								
	W	6	6:45 4.5	10:58 3.5	16:47 5.1					S	6	8:23 0.5	7:49 5.2	13:40 2.9	19:08 4.4					E	M	6	8:20 1.3	7:30 5.4	14:00 2.1	19:50 3.9						
	Th	7	8:10 0.1	7:47 4.7	12:30 3.5	18:05 5.0				S	7	1:14 0.8	8:22 5.3	14:29 2.4	20:12 4.4					A	Tu	7	1:04 1.6	8:00 5.4	14:33 1.6	20:50 3.9						
	F	8	1:13 0.1	8:35 4.8	13:47 3.2	19:18 4.9				M	8	2:02 1.1	8:53 5.4	15:07 1.9	21:07 4.4					W	8	1:42 2.0	8:26 5.5	15:04 1.1	21:43 4.1							
	S	9	2:06 0.2	9:14 5.1	14:43 2.8	20:20 5.0				A	Tu	9	2:43 1.4	9:22 5.4	15:42 1.4	21:57 4.5					Th	9	2:20 2.3	8:50 5.6	15:39 0.6	22:33 4.1						
	S	10	2:48 0.4	9:47 5.3	15:26 2.4	21:17 5.0				W	10	3:17 1.7	9:46 5.5	16:05 1.1	22:45 4.6					F	10	3:00 2.6	9:16 5.7	16:15 0.1	23:24 4.2							
	M	11	3:27 0.6	10:14 5.3	16:08 1.9	22:07 5.0				Th	11	3:49 2.0	10:08 5.5	16:37 0.6	23:30 4.6					S	11	3:38 2.8	9:46 5.8	16:52 -0.3								
	Tu	12	4:07 0.9	10:42 5.4	16:38 1.6	22:50 4.9				●	F	12	4:22 2.2	10:28 5.6	17:12 0.2					●	S	12	4:14 4.3	4:18 3.1	10:18 5.9	17:30 -0.7						
W	13	4:40 1.2	11:04 5.2	17:10 1.3	23:32 4.9				S	13	5:06 4.5	4:55 2.5	10:55 5.5	17:48 0.0						M	13	1:00 4.4	5:00 3.2	10:50 5.9	18:10 -0.8							
●	Th	14	5:08 1.5	11:23 5.3	17:38 1.0				S	14	1:05 4.4	5:28 2.9	11:20 5.5	18:28 -0.2						S	Tu	14	1:50 4.4	5:45 3.3	11:28 5.9	18:54 -0.8						
F	15	5:16 4.8	5:38 1.8	11:45 5.2	18:10 0.7				M	15	1:57 4.3	6:05 3.2	11:46 5.6	19:09 -0.3						W	15	2:35 4.5	6:30 3.4	12:05 5.7	19:37 -0.7							
S	16	1:00 4.6	6:07 2.2	12:07 5.2	18:48 0.5				S	Tu	16	2:52 4.4	6:48 3.4	12:15 5.5	19:54 -0.3					Th	16	3:20 4.7	7:30 3.4	12:55 5.4	20:28 -0.5							
S	17	1:50 4.3	6:38 2.6	12:28 5.2	19:30 0.4				W	17	3:48 4.4	7:39 3.6	12:52 5.3	20:42 -0.2						F	17	4:00 4.8	8:36 3.4	13:55 4.8	21:10 -0.1							
M	18	2:48 4.2	7:13 3.0	12:51 5.2	20:15 0.3				Th	18	4:42 4.5	8:45 3.6	13:44 5.1	21:35 -0.1						S	18	4:40 4.9	9:48 3.2	15:12 4.6	22:00 0.3							
Tu	19	3:58 4.1	7:56 3.3	13:19 5.1	21:07 0.3				F	19	5:31 4.7	10:01 3.6	15:09 4.7	22:30 0.2						●	S	19	5:25 5.1	11:00 2.7	16:48 4.2	22:58 0.8						
W	20	5:09 4.2	8:48 3.5	14:02 5.1	22:12 0.3				●	S	20	6:12 4.8	11:20 3.3	16:48 4.5	23:29 0.5					E	M	20	6:00 5.3	12:12 2.0	18:20 4.1	23:50 1.4						
●	Th	21	6:15 4.3	10:05 3.6	15:13 4.9	23:04 0.3				S	21	6:51 5.0	12:32 2.7	18:25 4.4						Tu	21	6:40 5.5	13:06 1.4	19:40 4.2								
F	22	7:02 4.5	11:28 3.5	16:54 4.7					M	22	8:30 0.8	7:29 5.4	13:34 1.9	19:44 4.5						W	22	8:40 1.9	7:20 5.8	14:05 0.6	20:55 4.3							
S	23	8:05 0.3	7:40 4.8	12:45 3.2	18:33 4.7				E	Tu	23	1:23 1.2	8:02 5.5	14:22 1.1	20:48 4.7					P	Th	23	1:35 2.3	8:02 6.1	15:02 -0.2	22:00 4.3						
S	24	1:03 0.4	8:16 5.1	13:46 2.5	19:47 4.9				W	24	2:12 1.5	8:40 5.8	15:10 0.4	21:53 4.9						F	24	2:25 2.6	8:45 6.4	15:54 -0.8	22:00 4.4							
M	25	2:02 0.5	8:50 5.3	14:40 1.8	20:50 5.1				P	Th	25	3:00 1.8	9:16 6.2	16:00 -0.3	22:55 4.9					S	25	3:15 2.9	9:28 6.5	16:42 -1.2	23:57 4.5							
Tu	26	2:53 0.7	9:25 5.6	15:30 1.0	21:48 5.3				F	26	3:47 2.2	9:55 6.3	16:50 -0.9	23:55 4.8						☾	S	26	4:08 3.2	10:14 6.5	17:30 -1.4							
W	27	3:38 1.0	9:58 5.8	16:12 0.4	22:46 5.4				☾	S	27	4:33 2.5	10:36 6.5	17:38 -1.2						M	27	4:50 4.6	5:00 3.3	11:00 6.5	18:16 -1.4							
☾	Th	28	4:22 1.2	10:33 6.0	17:00 -0.2	23:44 5.4				S	28	5:53 4.7	5:20 2.9	11:18 6.4	18:28 -1.3					Tu	28	1:40 4.7	5:54 3.4	11:48 6.2	19:00 -1.2							
F	29	5:04 1.6	11:11 6.1	18:48 -0.4					N	M	29	1:52 4.6	6:08 3.2	12:04 6.2	19:18 -1.2					W	29	2:30 4.8	6:48 3.4	12:37 5.8	19:45 -0.9							
S	30	5:45 5.2	5:48 2.1	11:50 6.1	18:40 -0.8				Tu	30	2:52 4.6	7:02 3.4	12:50 5.9	20:08 -1.0						Th	30	3:18 4.9	7:48 3.4	13:30 5.3	20:27 -0.4							
S	31	1:49 4.9	6:33 2.6	12:32 6.1	19:33 -0.8													F	31	4:00 5.1	8:52 3.2	14:30 4.8	21:08 0.2									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.							FEBRUARY.							MARCH.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.						W.	Mo.						W.	Mo.						
N	F	1	2:18 2.4	8:32 8.4	15:35 0.8	21:45 6.5	N	M	1	4:10 3.7	9:54 8.5	17:10 -0.4	23:44 6.7	N	M	1	2:40 3.8	8:25 7.9	15:50 0.3	22:30 6.5		
	S	2	3:20 2.9	9:25 8.7	16:35 0.1	22:50 6.6		Tu	2	5:10 3.7	10:47 8.6	18:00 -0.7	23:44 6.7		Tu	2	4:00 3.8	9:35 7.9	16:45 0.0	23:25 6.9		
	S	3	4:22 3.1	10:16 9.0	17:30 -0.5	23:47 6.8		W	3	6:00 7.30	6:05 3.5	11:35 8.7	18:42 -0.9		W	3	5:05 3.5	10:35 8.0	17:35 -0.2	23:25 6.9		
	M	4	5:17 3.3	11:05 9.1	18:15 -1.0	24:47 6.8		Th	4	1:06 7.3	6:50 3.3	12:18 8.7	19:18 -0.8		Th	4	0:05 7.3	5:55 3.1	11:23 8.1	18:15 -0.2		
	Tu	5	6:38 7.1	6:08 3.4	11:46 9.2	18:58 -1.2		○	F	5	1:40 7.4	7:28 3.1	12:55 8.5		19:52 -0.6	○	F	5	0:38 7.6	6:35 2.8	12:05 8.2	18:53 -0.1
O	W	6	1:22 7.1	6:55 3.5	12:28 9.1	19:36 -1.2	A	S	6	2:10 7.6	8:04 3.0	13:32 8.3	20:20 -0.1	A	S	6	1:05 7.8	7:12 2.4	12:43 8.2	19:23 0.2		
	Th	7	2:00 7.1	7:35 3.6	13:05 8.8	20:14 -1.0		○	S	7	2:35 7.7	8:35 2.8	14:05 8.0		20:45 0.4	○	S	7	1:30 8.0	7:45 2.2	13:17 8.1	19:50 0.7
	F	8	2:35 7.3	8:15 3.6	13:42 8.5	20:45 -0.6		E	M	8	3:00 7.7	9:07 2.6	14:38 7.7		21:07 0.8	E	M	8	1:55 8.1	8:08 1.8	13:50 7.9	20:10 1.0
	S	9	3:08 7.3	8:54 3.6	14:20 8.1	21:16 -0.1		Tu	9	3:27 7.9	9:33 2.4	15:16 7.3	21:33 1.2		Tu	9	2:20 8.2	8:33 1.6	14:25 7.7	20:33 1.4		
	S	10	3:40 7.4	9:32 3.5	14:55 7.7	21:48 0.4		W	10	3:55 7.9	10:10 2.2	16:00 7.0	22:00 1.8		W	10	2:45 8.1	9:05 1.4	15:00 7.5	21:00 1.8		
A	M	11	4:10 7.4	10:16 3.3	15:35 7.2	22:15 0.9	C	Th	11	4:28 7.9	10:52 2.0	16:47 6.5	22:35 2.3	C	Th	11	3:12 8.1	9:43 1.2	15:45 7.0	21:30 2.3		
	Tu	12	4:45 7.5	10:55 3.2	16:20 6.7	22:45 1.4		F	12	5:06 7.8	11:45 1.8	17:50 5.9	23:15 2.9		F	12	3:45 8.1	10:15 1.1	16:30 6.6	22:05 2.8		
	W	13	5:20 7.5	11:40 3.0	17:20 6.2	23:22 2.1		○	S	13	5:51 7.8	12:47 1.6	18:07 5.5		23:44 6.7	○	S	13	4:20 8.1	11:07 1.1	17:28 6.1	22:45 3.4
	Th	14	6:00 7.5	12:40 2.7	18:25 5.8	24:00 2.1		○	S	14	6:09 8.4	6:47 7.8	13:58 1.2		20:34 5.5	○	S	14	5:05 7.9	12:08 1.0	18:45 5.5	23:40 3.9
	F	15	6:07 2.6	6:47 7.7	13:42 2.2	19:43 5.6		S	M	15	1:18 4.0	7:52 7.9	15:11 0.7		21:52 5.8	S	M	15	6:05 7.7	13:20 0.9	20:15 5.8	23:15 3.4
E	S	16	1:02 3.1	7:43 7.8	14:50 1.5	21:04 5.6	S	Tu	16	2:46 4.2	8:59 8.2	16:16 0.0	22:54 6.5	S	Tu	16	1:05 4.3	7:17 7.6	14:35 0.7	21:30 6.2		
	S	17	2:05 3.5	8:38 8.1	15:48 0.7	22:15 5.9		W	17	4:10 4.1	10:01 8.6	17:11 -0.7	23:43 7.1		W	17	2:40 4.2	8:35 7.8	15:45 0.3	22:27 6.8		
	M	18	3:17 3.8	9:34 8.5	16:45 -0.1	23:15 6.5		Th	18	5:15 3.5	11:00 9.0	18:00 -1.1	23:44 6.7		Th	18	4:05 3.7	9:48 8.1	16:45 -0.1	23:13 7.4		
	Tu	19	4:25 3.8	10:25 8.9	17:35 -0.9	24:00 2.1		F	19	6:28 7.7	6:10 2.9	11:54 9.4	18:45 -1.4		F	19	5:05 3.0	10:50 8.6	17:35 -0.3	23:55 8.1		
	W	20	6:05 7.0	5:26 3.7	11:15 9.3	18:20 -1.5		●	S	20	1:05 8.2	7:00 2.2	12:45 9.6		19:30 -1.3	●	S	20	5:58 2.1	11:43 9.0	18:20 -0.4	23:40 3.4
P	Th	21	6:50 7.5	6:20 3.4	12:06 9.5	19:06 -1.8	E	●	S	21	1:45 8.7	7:48 1.6	13:35 9.5	20:10 -0.9	E	●	S	21	6:32 8.7	6:42 1.2	12:35 9.2	19:00 -0.2
	F	22	1:35 7.9	7:10 3.1	12:55 9.7	19:50 -1.8		M	22	2:25 9.0	8:35 1.1	14:25 9.2	20:50 -0.4	M		22	1:10 9.2	7:25 0.4	13:25 9.1	19:42 0.0		
	S	23	2:15 8.2	8:00 2.7	13:45 9.6	20:34 -1.6		Tu	23	3:05 9.2	9:20 0.8	15:15 8.6	21:33 0.3	Tu		23	1:48 9.4	8:10 -0.1	14:13 9.0	20:22 0.6		
	S	24	2:55 8.5	8:52 2.3	14:34 9.2	21:18 -1.0		W	24	3:45 9.2	10:10 0.6	16:10 8.0	22:18 1.1	W		24	2:27 9.5	9:00 -0.3	15:03 8.4	21:08 1.3		
	M	25	3:40 8.6	9:45 2.0	15:26 8.7	22:02 -0.4		Th	25	4:30 8.9	11:08 1.1	17:10 7.2	23:10 2.0	Th		25	3:07 9.4	9:48 -0.4	15:57 7.7	21:50 2.0		
E	Tu	26	4:20 8.7	10:37 1.7	16:24 7.9	22:46 0.5	D	F	26	5:18 8.7	12:13 0.7	18:25 6.5	23:44 6.7	D	F	26	3:50 9.1	10:42 -0.2	16:57 7.0	22:40 2.7		
	W	27	5:08 8.7	11:37 1.5	17:28 7.3	23:38 1.4		S	27	6:05 2.9	6:13 8.3	13:25 0.7	19:52 6.1		S	27	4:40 8.6	11:42 0.1	18:07 6.5	23:38 3.4		
	Th	28	6:00 8.5	12:45 1.3	18:44 6.6	24:00 2.1		S	28	1:15 3.5	7:15 8.0	14:40 0.6	21:20 6.1		S	28	5:35 8.1	12:50 0.4	19:30 6.3	23:15 3.4		
	F	29	6:38 2.2	6:55 8.4	13:58 1.0	20:08 6.2									M	29	6:55 3.8	6:40 7.7	14:00 0.6	20:53 6.4		
	S	30	1:44 3.1	7:54 8.4	15:12 0.6	21:33 6.2									Tu	30	2:25 3.9	8:00 7.4	15:10 0.6	21:57 6.8		
D	S	31	2:58 3.5	8:55 8.4	16:16 0.1	22:46 6.4							W	31	3:45 3.7	9:12 7.8	16:10 0.6	22:45 7.2				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	4:47 3.2	10:15 7.4	17:00 0.6	23:22 7.6	S	1	4:55 2.0	10:35 6.9	16:48 1.9	23:00 8.0	Tu	1	5:30 0.5	11:37 6.8	17:15 3.0	23:13 8.7														
	F	2	5:33 2.6	11:05 7.6	17:40 0.8	23:52 7.9	E S	2	5:33 1.5	11:20 7.2	17:27 2.0	23:40 8.3	W	2	6:08 -0.1	12:20 6.9	17:55 3.2	23:47 9.0														
	S	3	6:12 2.1	11:48 7.7	18:15 1.0		M	3	6:08 0.9	12:00 7.3	18:05 2.2		Th	3	6:45 -0.6	13:07 7.1	18:33 3.4															
	S	4	6:20 8.1	6:42 1.6	12:25 7.8	18:43 1.3	Tu	4	6:00 8.5	6:40 0.4	12:40 7.4	18:37 2.5	F	4	6:23 9.1	7:23 -1.0	13:50 7.2	19:15 3.5														
	M	5	6:45 8.2	7:10 1.3	13:00 7.9	19:10 1.5	W	5	6:28 8.7	7:10 0.0	13:10 7.5	19:07 2.7	S	5	1:00 9.2	8:03 -1.1	14:35 7.3	20:00 3.6														
E	Tu	6	1:10 8.3	7:38 0.9	13:35 7.8	19:40 1.8	Th	6	6:57 8.8	7:45 -0.3	14:00 7.3	19:37 3.0	S	6	1:42 9.1	8:45 -1.1	15:23 7.5	20:47 3.6														
	W	7	1:35 8.4	8:08 0.8	14:12 7.6	20:05 2.2	F	7	1:28 8.9	8:20 -0.5	14:45 7.2	20:12 3.2	M	7	2:28 8.8	9:30 -0.9	16:10 7.3	21:40 3.6														
	Th	8	2:03 8.5	8:38 0.4	14:50 7.4	20:33 2.5	S	8	2:03 8.9	9:00 -0.5	15:30 7.0	20:53 3.5	Tu	8	3:18 8.5	10:20 -0.6	17:00 7.4	22:43 3.5														
	F	9	2:33 8.5	9:15 0.2	15:35 7.0	21:05 3.0	S S	9	2:40 8.7	9:45 0.5	16:20 6.8	21:10 3.8	W	9	4:15 7.9	11:10 0.0	17:53 7.5	23:10 3.2														
	S	10	3:07 8.4	9:55 0.2	16:23 6.6	21:45 3.5	M	10	3:25 8.4	10:35 -0.2	17:15 6.8	22:42 3.9	Th	10	5:22 7.4	12:05 0.6	18:47 7.8															
S	S	11	3:45 8.2	10:45 0.3	17:20 6.4	22:33 3.9	Tu	11	4:20 8.9	11:30 0.1	18:18 6.8	23:55 4.0	F	11	1:05 2.8	6:38 6.9	13:00 1.2	19:40 8.1														
	M	12	4:35 7.8	11:45 0.5	18:32 6.1	23:43 4.1	W	12	5:28 7.5	12:30 0.3	19:30 7.0		S	12	2:10 2.1	7:57 6.8	14:00 1.7	20:30 8.2														
	Tu	13	5:38 7.6	12:55 0.6	19:50 6.3		Th	13	1:18 8.6	6:48 7.1	19:33 0.9	20:18 7.4	S	13	3:15 1.4	9:12 6.8	15:05 2.2	21:20 8.7														
	W	14	6:15 4.3	6:58 7.4	14:05 0.8	21:00 6.7	F	14	2:35 2.9	8:10 7.0	14:35 1.3	21:10 7.9	M	14	4:15 0.5	10:20 6.9	16:05 2.6	22:10 9.1														
	Th	15	2:43 3.8	8:22 7.4	15:12 0.8	21:52 7.3	S	15	3:35 2.9	9:25 7.2	15:35 1.5	21:55 8.3	Tu	15	5:10 -0.3	11:20 6.9	16:57 2.9	22:55 9.4														
P	F	16	3:55 3.0	9:35 7.7	16:10 0.8	22:38 7.9	S S	16	4:30 1.1	10:28 7.5	16:30 1.7	22:40 8.9	W	16	6:00 -0.9	12:15 7.0	17:47 3.1	23:40 9.6														
	S	17	4:50 2.0	10:48 8.9	17:02 0.8	23:18 8.5	M	17	5:23 0.2	11:25 7.7	17:23 2.0	23:25 9.4	Th	17	6:45 -1.3	13:05 7.1	18:35 3.3															
	S	18	5:37 1.0	11:35 8.3	17:48 0.8	23:57 9.0	Tu	18	6:10 -0.5	12:18 7.7	18:08 2.2		F	18	8:20 9.6	7:30 -1.4	19:52 7.0	19:23 9.4														
	M	19	6:23 0.4	12:25 8.6	18:32 1.0		W	19	6:03 0.7	6:55 -1.1	13:08 7.7	18:50 2.5	S	19	1:03 9.5	8:13 -1.3	14:35 7.0	20:08 9.5														
	Tu	20	6:35 9.4	7:08 -0.6	13:15 8.5	19:18 1.4	Th	20	6:43 9.8	7:40 -1.4	13:55 7.5	19:35 2.8	S	20	1:43 9.1	8:55 -1.0	15:20 7.1	20:55 9.6														
N	W	21	1:15 9.7	7:53 -0.9	14:03 8.2	20:00 1.8	F	21	1:23 9.7	8:25 -1.4	14:45 7.3	20:20 3.1	M	21	2:25 8.6	9:33 -0.5	16:03 7.1	21:45 9.6														
	Th	22	1:53 9.7	8:40 -1.0	14:52 7.8	20:40 2.3	S	22	2:05 9.4	9:16 -1.1	15:35 7.0	21:07 3.4	Tu	22	3:10 8.0	10:10 0.1	16:43 7.2	22:37 9.5														
	F	23	2:32 9.5	9:27 -0.9	15:45 7.3	21:25 2.8	S	23	2:47 8.9	9:57 0.7	16:27 6.9	22:00 3.6	W	23	3:55 7.4	10:50 0.7	17:25 7.3	23:33 9.4														
	S	24	3:15 9.1	10:20 -0.6	16:43 6.9	22:17 3.3	M	24	3:43 7.6	10:43 0.9	17:20 6.8	22:00 3.8	Th	24	4:48 6.8	11:30 1.3	18:05 7.5															
	S	25	4:03 8.5	11:13 -0.1	17:47 6.6	23:20 3.7	Tu	25	4:25 7.6	11:32 0.5	18:13 6.9		F	25	6:30 3.1	5:47 6.2	12:07 1.8	18:50 7.6														
A	M	26	5:00 7.9	12:13 0.4	19:00 6.6		W	26	6:10 3.8	6:25 6.9	12:22 1.1	19:07 7.1	S	26	1:25 2.8	6:55 5.9	12:55 2.3	19:43 7.7														
	Tu	27	6:38 3.9	6:00 7.2	13:15 0.8	20:08 6.7	Th	27	1:23 3.5	6:37 6.4	13:15 1.6	19:57 7.3	S	27	2:23 2.4	8:13 5.7	13:47 2.8	20:17 7.9														
	W	28	2:00 3.8	7:23 6.8	14:15 1.2	21:05 7.0	F	28	2:30 3.0	7:50 6.1	14:57 2.0	20:40 7.6	M	28	3:20 1.7	9:15 5.7	14:40 3.1	21:00 8.2														
	Th	29	3:15 3.3	8:38 6.7	15:15 1.5	21:48 7.3	S	29	3:22 2.5	8:58 6.2	14:58 2.3	21:22 7.8	Tu	29	4:08 1.0	10:18 5.9	15:37 3.4	21:50 8.5														
	F	30	4:15 2.7	9:43 6.7	16:05 1.7	22:25 7.7	S	30	4:10 1.9	9:58 6.4	15:50 2.5	22:00 8.1	W	30	4:55 0.3	11:12 6.3	16:30 3.6	22:32 8.8														
							M	31	4:52 1.2	10:50 6.5	16:38 2.8	22:10 8.4																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quart; ☽, full moon; ☾, 3d quart; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
O	Th	1.	5:40	12:03	17:20	23:15	○	S	1	6:43	13:10	18:48	...	E	W	1	1:10	7:42	13:56	20:05
			—0.4	6.7	3.7	9.0				—1.3	7.7	3.1	...			9.3	—0.5	9.0	0.9	
	F	2	6:22	12:50	18:12	...		M	2	0:32	7:27	13:50	19:37		Th	2	2:00	8:23	14:35	20:52
			—1.0	7.0	3.7	...				9.4	—1.4	8.0	2.6			9.1	0.0	9.2	0.5	
	S	3	0:00	7:05	13:35	19:00	P	Tu	3	1:20	8:08	14:33	20:27	F	3	2:50	9:05	15:18	21:42	
P			9.3	—1.3	7.3	3.6				9.4	—1.2	8.3	2.2			8.7	0.6	9.2	0.3	
	S	4	0:45	7:47	14:20	19:50		W	4	2:10	8:52	15:15	21:18		S	4	3:45	9:50	16:00	22:40
			9.3	—1.5	7.6	3.4				9.2	—0.8	8.6	1.8			8.0	1.3	9.1	0.3	
	M	5	1:30	8:30	15:03	20:40	E	Th	5	3:02	9:35	15:55	22:07		S	5	4:45	10:40	16:50	23:43
			9.3	—1.4	7.8	3.2				8.8	—0.2	8.8	1.4			7.3	2.1	8.9	0.3	
E	Tu	6	2:20	9:15	15:47	21:35		F	6	3:57	10:20	16:38	23:05	☾	M	6	5:55	11:37	17:43	...
			9.0	—1.0	7.9	2.9				8.0	0.6	8.8	1.2			6.6	2.9	8.6	...	
	W	7	3:10	10:00	16:30	22:35		S	7	5:00	11:08	17:25	...		Tu	7	6:50	7:20	12:45	18:47
			8.6	—0.5	8.1	2.6				7.4	1.4	8.7	...			0.4	6.2	3.4	8.2	
	Th	8	4:08	10:48	17:18	23:35	☾	S	8	0:10	6:10	12:05	18:20	N	W	8	2:07	8:48	14:10	19:58
☾			8.0	0.1	8.3	2.2				1.0	6.8	2.2	8.6			0.3	6.2	3.8	8.1	
	F	9	5:12	11:37	18:08	...		M	9	1:20	7:30	13:08	19:20		Th	9	3:17	10:00	15:30	21:08
			7.4	0.8	8.4	...				0.8	6.2	2.9	8.6			0.2	6.6	3.7	8.0	
	S	10	0:35	6:25	12:30	19:00		Tu	10	2:33	8:55	14:18	20:20		F	10	4:20	10:55	16:38	22:10
			1.9	6.9	1.6	8.4				0.4	6.1	3.5	8.6			0.00	7.0	3.3	8.2	
N	S	11	1:45	7:43	13:35	19:53		W	11	3:43	10:12	15:33	21:23		S	11	5:16	11:38	17:30	23:05
			1.4	6.5	2.3	8.6				0.0	6.3	3.7	8.6			—0.1	7.3	2.8	8.3	
	M	12	2:55	9:00	14:37	20:50	N	Th	12	4:43	11:15	16:40	22:20		S	12	5:55	12:13	18:15	23:50
			0.8	6.3	2.9	8.8				—0.4	6.6	3.7	8.8			—0.1	7.7	2.4	8.3	
	Tu	13	4:00	10:15	15:40	21:43		F	13	5:35	12:05	17:38	23:12		M	13	6:33	12:43	18:55	...
A			0.2	6.4	3.3	9.0				—0.7	6.9	3.4	8.8			0.1	7.9	2.0	...	
	W	14	4:58	11:20	16:43	22:35		S	14	6:18	12:45	18:25	...	●	Tu	14	0:30	7:05	13:10	19:27
			—0.5	6.6	3.5	9.2				—0.8	7.2	3.1	...			8.3	0.5	8.1	1.8	
	Th	15	5:50	12:15	17:40	23:22	●	S	15	0:00	7:00	13:20	19:10	E	W	15	1:05	7:32	13:35	19:52
			—0.9	6.7	3.7	9.3				8.8	—0.7	7.4	2.9			8.0	1.0	8.2	1.5	
●	F	16	6:35	13:00	18:30	...		M	16	0:40	7:35	13:50	19:48	A	Th	16	1:40	7:55	14:00	20:20
			—1.2	6.9	3.5	...				8.6	—0.4	7.6	2.7			7.8	1.3	8.2	1.4	
	S	17	0:08	7:18	13:42	19:18		Tu	17	1:18	8:05	14:17	20:22		F	17	2:13	8:17	14:25	20:48
			9.2	—1.4	7.1	3.4				8.4	0.1	7.7	2.5			7.6	1.8	8.1	1.2	
	S	18	0:50	7:58	14:20	20:00		W	18	1:55	8:32	14:45	20:55		S	18	2:48	8:45	14:50	21:20
M			9.0	—1.0	7.2	3.3				8.0	0.7	7.8	2.3			7.2	2.2	8.1	1.2	
	M	19	1:30	8:32	14:53	20:42	A	Th	19	2:30	8:55	15:12	21:22		S	19	3:27	9:10	15:20	22:00
			8.7	—0.6	7.4	3.2				7.6	1.1	7.9	2.1			6.8	2.6	8.1	1.1	
	Tu	20	2:10	9:05	15:25	21:23		F	20	3:08	9:20	15:42	21:58		M	20	4:14	9:42	15:55	22:45
			8.3	0.0	7.5	3.1				7.2	1.6	8.0	2.0			6.3	3.0	8.0	1.1	
E	W	21	2:50	9:35	15:58	22:05		S	21	3:48	9:47	16:12	22:40		Tu	21	5:08	10:20	16:40	23:42
			7.8	0.6	7.5	2.9				6.8	2.1	8.0	1.9			5.9	3.6	7.8	1.2	
	Th	22	3:30	10:05	16:30	22:45		S	22	4:35	10:20	16:47	23:28	☾	W	22	6:17	11:18	17:35	...
			7.2	1.0	7.7	2.8				6.3	2.5	7.9	1.7			5.7	4.1	7.6	...	
	F	23	4:15	10:35	17:05	23:30	☾	M	23	5:30	10:57	17:30	...	S	Th	23	0:50	7:43	12:40	18:47
☾			6.7	1.6	7.8	2.6				5.5	3.0	7.8	...			1.1	5.7	4.4	7.3	
	S	24	5:07	11:10	17:42	...		Tu	24	0:25	6:45	11:48	18:22		F	24	2:02	9:00	14:15	20:07
			6.2	2.2	7.8	...				1.6	5.4	3.5	7.8			0.9	6.2	4.3	7.5	
	S	25	0:22	6:08	11:50	18:27		W	25	1:32	8:08	12:55	19:25		S	25	3:10	9:58	15:37	21:20
			2.4	5.8	2.6	7.8				1.3	5.4	4.0	7.8			0.6	6.8	3.7	7.8	
S	M	26	1:20	7:20	12:40	19:20	S	Th	26	2:43	9:25	14:20	20:32		S	26	4:10	10:45	16:40	22:22
			2.0	5.5	3.2	7.9				0.9	5.7	4.2	8.0			0.3	7.5	2.8	8.3	
	Tu	27	2:23	8:38	13:38	20:12		F	27	3:47	10:27	15:42	21:37		M	27	5:02	11:25	17:30	23:20
			1.5	5.4	3.6	8.1				0.3	6.3	4.1	8.3			0.1	8.1	1.9	8.7	
	W	28	3:25	9:50	14:45	21:08		S	28	4:43	11:15	16:50	22:35		Tu	28	5:50	12:03	18:13	...
P			0.9	5.7	4.0	8.3				—0.2	6.9	3.5	8.7			0.1	8.7	1.0	...	
	Th	29	4:20	10:50	15:55	22:00		S	29	5:33	12:00	17:44	23:30	○	W	29	0:10	6:32	12:40	19:00
			0.2	6.1	4.1	8.7				—0.6	7.6	2.8	9.1			8.9	0.2	9.2	0.2	
	F	30	5:12	11:42	17:00	22:52	○	M	30	6:18	12:38	18:35	...		Th	30	1:00	7:12	13:20	19:45
			—0.4	6.6	4.0	9.0				—0.8	8.2	2.2	...			9.1	0.4	9.5	—0.3	
S	S	31	6:00	12:30	17:58	23:42	P	Tu	31	0:21	7:00	13:18	19:22							
			—1.0	7.2	3.6	9.3				9.3	—0.8	8.6	1.5							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	1:50 8.7	7:57 0.9	14:00 3.6	20:32 -0.5	N	M	1	3:22 7.5	9:00 2.9	14:50 9.4	21:55 -0.9	N	W	1	4:05 7.2	9:37 3.5	15:13 8.6	22:22 -0.4												
	S	2	2:40 8.4	8:40 1.5	14:40 9.5	21:22 -0.6		Tu	2	4:20 7.1	9:52 3.5	15:40 8.6	22:50 -0.4		Th	2	4:55 7.1	10:37 3.6	16:05 7.8	23:10 0.2												
	S	3	3:33 7.8	9:25 2.1	15:23 9.3	22:15 -0.5		W	3	5:23 6.7	10:55 3.7	16:35 8.0	23:48 0.1		F	3	5:50 7.1	11:45 3.6	17:05 7.1													
	M	4	4:32 7.1	10:15 2.8	16:12 8.9	23:15 -0.2		Th	4	6:35 6.7	12:12 3.9	17:40 7.4			S	4	6:00 1.0	6:42 7.2	12:58 3.4	18:13 6.4												
	Tu	5	5:40 6.5	11:13 3.5	17:07 8.3			F	5	6:50 0.7	7:42 6.9	13:35 3.7	19:00 6.9		S	5	6:53 1.5	7:35 7.4	14:08 3.0	19:30 6.1												
	W	6	6:20 0.2	7:03 6.4	12:30 3.9	18:15 7.8		S	6	1:53 1.1	8:42 7.2	14:55 3.2	20:18 6.7		M	6	1:47 2.0	8:22 7.7	15:05 2.4	20:45 6.1												
	Th	7	1:30 0.4	8:25 6.5	13:57 3.9	19:32 7.5		S	7	2:55 1.4	9:28 7.5	15:57 2.4	21:28 6.8		Tu	7	2:40 2.4	9:07 7.8	16:00 1.8	21:45 6.2												
	F	8	2:42 0.5	9:30 6.9	15:20 3.5	20:49 7.4		M	8	3:48 1.7	10:07 7.9	16:40 1.8	22:24 7.0		W	8	3:37 2.7	9:45 8.1	16:45 1.2	22:40 6.4												
	S	9	3:45 0.6	10:20 7.3	16:23 2.9	21:57 7.5		Tu	9	4:33 1.8	10:43 8.1	17:22 1.2	23:10 7.2		Th	9	4:25 3.0	10:28 8.4	17:25 0.5	23:28 6.6												
	S	10	4:40 0.7	11:00 7.7	17:13 2.2	22:50 7.7		W	10	5:12 2.1	11:17 8.4	17:58 0.7	23:50 7.3		F	10	5:08 3.2	11:00 8.6	18:02 -0.1													
	M	11	5:20 0.9	11:35 8.1	17:55 1.6	23:35 7.8		Th	11	5:53 2.4	11:45 8.6	18:30 0.2			S	11	6:13 6.8	5:45 3.4	11:35 8.8	18:37 -0.6												
	Tu	12	5:57 1.2	12:02 8.2	18:28 1.2			F	12	6:30 7.3	6:25 2.6	12:13 8.8	19:00 -0.1		S	12	6:55 7.0	6:25 3.5	12:10 9.0	19:15 -0.9												
E	W	13	6:13 7.8	6:28 1.4	12:30 8.4	18:58 0.9	E	S	13	1:10 7.2	6:53 2.9	12:40 8.8	19:32 -0.4	E	M	13	1:37 7.2	7:03 3.7	12:47 9.1	19:48 -1.0												
	Th	14	6:50 7.8	6:57 1.8	12:53 8.5	19:25 0.6		S	14	1:48 7.2	7:20 3.2	13:10 8.8	20:05 -0.5		Tu	14	2:18 7.3	7:43 3.7	13:25 9.0	20:28 -1.0												
	F	15	1:25 7.6	7:27 2.1	13:18 8.5	19:55 0.5		M	15	2:27 7.1	7:53 3.4	13:43 8.8	20:42 -0.5		W	15	3:00 7.4	8:25 3.7	14:07 8.8	21:08 -0.9												
	S	16	2:00 7.4	7:50 2.5	13:45 8.6	20:23 0.4		Tu	16	3:10 7.0	8:30 3.7	14:18 8.6	21:20 -0.4		Th	16	3:42 7.4	9:15 3.6	14:50 8.4	21:50 -0.5												
	S	17	2:35 7.1	8:15 2.8	14:10 8.5	20:57 0.3		W	17	3:55 6.7	9:12 3.9	15:00 8.3	22:05 -0.2		F	17	4:27 7.4	10:10 3.5	15:43 7.9	22:37 0.0												
	M	18	3:17 6.8	8:44 3.2	14:42 8.4	21:35 0.3		Th	18	4:45 6.8	10:08 4.1	15:48 7.8	22:55 0.2		S	18	5:15 7.5	11:13 3.3	16:45 7.4	23:25 0.6												
	Tu	19	4:00 6.5	9:20 3.6	15:20 8.2	22:20 0.4		F	19	5:42 6.8	11:18 4.1	16:50 7.3	23:50 0.6		S	19	6:05 7.7	12:20 2.9	17:55 6.8													
	W	20	4:55 6.2	10:03 4.1	16:03 7.8	23:13 0.6		S	20	6:42 7.0	12:38 3.8	18:05 6.9			M	20	6:18 1.3	7:00 8.0	18:27 2.3	19:15 6.5												
	Th	21	6:00 6.0	11:10 4.3	17:02 7.4			S	21	6:52 1.1	7:40 7.3	18:55 3.1	19:30 6.7		Tu	21	1:18 1.9	7:53 8.1	14:40 1.5	20:35 6.4												
	F	22	6:17 0.8	7:13 6.2	12:40 4.1	18:18 7.1		M	22	1:55 1.4	8:35 7.8	15:00 2.2	20:50 6.8		W	22	2:25 2.4	8:45 8.5	15:45 0.7	21:50 6.5												
	S	23	1:25 1.0	8:22 6.7	14:12 3.8	19:47 7.0		Tu	23	2:55 1.7	9:22 8.3	16:02 1.3	22:00 7.2		Th	23	3:27 2.8	9:40 9.0	16:45 -0.1	22:57 6.8												
	S	24	2:33 1.0	9:18 7.8	15:27 3.0	21:05 7.3		W	24	3:58 1.9	10:10 8.8	16:55 0.3	23:00 7.5		F	24	4:25 3.1	10:30 9.4	17:38 -0.9	23:55 7.0												
M	25	3:35 1.0	10:05 8.0	16:20 2.0	22:10 7.7	Th	25	4:52 2.1	10:55 9.4	17:45 -0.6	23:55 7.7	S	25	5:20 3.2	11:15 9.7	18:25 -1.4																
E	Tu	26	4:30 1.0	10:50 8.5	17:10 1.0	23:10 8.1	E	F	26	5:40 2.3	11:38 9.8	18:32 -1.3	E	S	26	6:45 7.1	6:15 3.4	12:00 9.8	19:10 -1.7													
	W	27	5:18 1.0	11:30 9.1	17:58 0.0			S	27	6:45 7.7	6:25 2.5	12:20 10.0		19:18 -1.7	M	27	1:33 7.2	7:00 3.3	12:45 9.7	19:55 -1.7												
	Th	28	6:00 8.4	6:05 1.2	12:08 9.6	18:43 -0.7		S	28	1:35 7.7	7:10 2.8	13:00 10.0		20:05 -1.7	Tu	28	2:17 7.4	7:50 3.3	13:28 9.5	20:35 -1.4												
	F	29	6:50 8.4	6:48 1.5	12:47 9.9	19:30 -1.2		N	M	29	2:23 7.5	7:55 3.1		13:43 9.7	20:50 -1.5	W	29	3:00 7.4	8:35 3.3	14:10 9.0	21:15 -0.9											
	S	30	1:40 8.3	7:30 2.0	13:25 9.9	20:17 -1.4		Tu	30	3:12 7.4	8:45 3.3	14:27 9.2		21:35 -1.1	Th	30	3:40 7.4	9:23 3.3	14:55 8.4	21:53 -0.2												
	S	31	2:30 7.9	8:13 2.4	14:07 9.7	21:05 -1.3									F	31	4:20 7.5	10:15 3.2	15:40 7.7	22:30 0.5												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian, W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.						W.	Mo.						W.	Mo.					
	F	1	0:54	4:50	11:07	18:37		M	1	3:24	6:46	11:48	19:48	N	M	1	2:01	5:50	10:28	18:31	
			8.4	7.0	10.9	2.8				10.4	9.5	10.2	1.2				10.1	9.2	9.6	2.2	
	S	2	2:22	5:55	11:50	19:23		N	Tu	2	4:04	7:14	12:32	20:26		Tu	2	2:50	7:40	11:40	19:20
			9.3	7.9	10.8	1.8				10.9	9.6	9.9	1.1				10.6	9.2	9.4	2.1	
	S	3	3:26	6:57	12:27	20:05		W	3	4:45	8:00	13:26	21:02		W	3	3:33	9:13	12:56	20:02	
			10.0	8.8	10.7	1.0				11.1	9.6	9.8	1.3				11.0	8.5	9.2	2.0	
	M	4	4:19	7:57	12:59	20:45		Th	4	5:16	9:35	14:23	21:40		Th	4	4:04	9:42	14:03	20:41	
			10.8	9.4	10.4	0.7				11.2	9.2	9.6	1.6				11.1	8.4	9.2	2.7	
N	Tu	5	5:05	8:40	13:32	21:23		○	F	5	5:48	10:43	15:19	22:11		F	5	4:32	10:01	15:00	21:14
			11.1	9.6	10.3	0.6				11.3	8.8	9.3	2.0				11.0	8.3	9.0	3.0	
○	W	6	5:45	9:25	14:15	22:00		S	6	6:11	11:17	16:11	22:45	○	S	6	4:52	10:15	15:50	21:53	
			11.3	9.7	10.0	0.8				11.3	8.2	9.0	2.5				10.9	7.8	9.0	3.5	
	Th	7	6:22	10:30	14:35	22:35	A	S	7	6:29	11:54	17:02	23:21	A	S	7	5:10	10:39	16:34	22:26	
			11.3	9.6	9.7	1.1				11.0	7.7	8.8	3.0				10.6	6.7	8.8	4.0	
	F	8	6:57	11:20	14:45	23:10		M	8	6:50	12:34	17:50	23:56	E	M	8	5:27	11:18	17:18	22:58	
			11.6	9.3	9.4	1.5				10.9	7.1	8.5	3.9				10.4	6.0	9.0	4.6	
	S	9	7:25	12:50	15:35	23:46	E	Tu	9	7:09	13:17	18:52			Tu	9	5:41	11:41	18:04	23:30	
			11.6	8.7	8.8	2.1				10.7	6.3	8.3					10.0	5.3	9.1	5.4	
	S	10	7:50	14:05	17:22			W	10	0:29	7:28	13:52	19:59		W	10	5:59	12:15	18:54		
			11.4	8.0	8.2					4.9	10.5	5.6	8.2				10.0	4.6	9.2		
A	M	11	0:25	8:16	15:00	18:43		Th	11	1:05	7:51	14:37	21:20		Th	11	0:08	6:19	12:50	19:52	
			2.8	11.3	7.4	7.8				5.8	10.3	4.9	8.1				3.9	9.9	4.4	9.1	
	Tu	12	1:04	8:40	15:45	20:10		F	12	1:50	8:17	15:27	23:02		F	12	0:44	6:40	13:33	20:57	
			3.8	11.2	6.7	7.4				6.6	10.1	4.2	8.0				6.8	9.7	3.7	9.2	
E	W	13	1:42	9:02	16:07	21:43	○	S	13	2:32	8:35	16:20			S	13	1:29	6:47	14:23	22:21	
			5.0	10.8	5.9	7.4				7.5	10.0	3.5					7.4	9.8	3.2	9.0	
○	Th	14	2:22	9:25	16:45	22:42		S	14	1:02	3:18	8:48	17:12	○	S	14	2:25	6:55	15:20		
			6.0	10.6	5.0	7.6				8.5	8.3	10.0	2.3				8.4	9.7	2.8		
	F	15	3:10	9:50	17:28			M	15	2:17	4:28	9:02	18:02		M	15	0:03	3:24	7:05	16:20	
			6.8	10.5	3.9					9.5	9.1	10.2	2.1				9.6	9.0	9.7	2.6	
	S	16	1:32	4:17	10:20	18:07	S	Tu	16	3:00	5:48	9:50	18:55	S	Tu	16	1:21	5:08	7:51	17:21	
			8.2	7.6	10.3	3.0				10.5	9.4	10.3	1.4				10.2	9.2	9.6	2.3	
	S	17	2:42	5:24	10:35	18:48		W	17	3:37	6:54	11:16	19:42		W	17	2:06	6:19	9:31	18:21	
			9.0	8.4	10.3	2.1				11.0	9.4	10.0	1.0				10.6	9.1	9.2	2.1	
	M	18	3:30	6:25	10:52	19:28		Th	18	4:07	8:25	12:49	20:31		Th	18	2:39	7:39	12:04	19:16	
			10.0	9.2	10.4	1.2				11.4	9.0	10.0	0.8				10.8	8.5	9.3	2.1	
	Tu	19	4:10	7:35	11:28	20:10		F	19	4:35	9:16	14:14	21:19		F	19	3:10	8:20	13:39	20:10	
			10.7	9.5	10.6	0.5				11.6	8.5	9.8	0.8				10.9	7.4	9.3	2.2	
S	W	20	4:45	8:18	12:18	20:53	●	S	20	5:03	10:04	15:27	22:04		S	20	3:38	9:01	14:52	21:04	
			11.4	9.6	10.5	0.0	P			11.5	7.7	9.9	1.3				11.0	6.5	9.7	2.6	
●	Th	21	5:18	9:25	13:25	21:37		S	21	5:30	10:51	16:33	22:52	P	S	21	4:07	9:42	15:50	21:51	
			11.8	9.5	10.3	-0.2				11.4	8.0	10.0	2.1	●			11.0	5.6	10.1	3.3	
	F	22	5:50	10:22	14:40	22:23	E	M	22	6:00	11:41	17:39	23:40	E	M	22	4:34	10:26	16:49	22:36	
			11.8	9.2	10.0	0.0				11.4	6.0	9.8	3.1				11.0	4.5	10.3	4.2	
P	S	23	6:20	11:17	16:00	23:07		Tu	23	6:30	12:32	18:45			Tu	23	5:02	11:10	17:50	23:20	
			12.0	8.7	9.9	0.5				11.3	5.0	9.6					10.8	3.7	10.5	4.9	
	S	24	6:52	12:03	17:12	23:54		W	24	0:25	7:00	13:19	19:56		W	24	5:32	11:52	18:52		
			12.0	7.8	9.5	1.5				4.2	11.0	4.2	9.5				10.7	3.1	10.4		
	M	25	7:25	13:14	18:30			Th	25	1:13	7:35	14:18	21:20		Th	25	0:05	6:10	12:40	20:00	
			11.8	7.8	8.9					5.5	10.8	3.6	9.2				6.0	10.6	2.7	10.2	
E	Tu	26	0:44	7:58	14:16	19:48	○	F	26	2:02	8:18	15:20	23:01		F	26	0:52	6:42	13:34	21:19	
			2.7	11.7	6.1	8.5				6.7	10.5	3.1	9.2				7.0	10.4	2.5	10.0	
	W	27	1:33	8:30	15:07	21:18		S	27	3:00	8:56	16:29			S	27	1:47	7:18	14:32	22:48	
			4.3	11.2	5.1	8.4				7.0	10.2	2.7					7.5	10.0	2.6	10.1	
○	Th	28	2:23	9:03	16:12	23:06		S	28	0:47	4:16	9:38	17:35	○	S	28	2:56	7:53	15:38		
			5.7	11.0	4.0	8.3				9.8	8.7	10.0	2.4				8.6	9.7	2.7		
	F	29	3:21	9:43	17:13										M	29	0:14	4:54	8:35	16:37	
			6.8	10.9	3.1												10.3	8.9	9.1	3.0	
	S	30	1:00	4:26	10:27	18:10									Tu	30	1:13	7:10	10:11	17:43	
			8.9	7.9	10.7	2.3											10.7	8.4	8.7	3.2	
	S	31	2:22	5:38	11:10	19:02									W	31	2:02	8:50	11:55	18:38	
			9.4	9.0	10.4	1.6											10.9	7.9	8.4	3.5	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from 2 feet below Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	2:34 11.0	9:04 7.4	13:27 9.6	19:26 8.8	E	S	1	1:57 10.4	8:36 5.4	14:45 8.6	19:31 5.9	O	Tu	1	1:19 10.1	8:21 2.7	16:15 9.8	20:01 7.9												
	F	2	3:08 10.8	9:20 6.8	14:29 8.8	20:11 4.3		S	2	2:15 10.1	8:43 4.8	15:28 9.2	20:08 6.2		W	2	1:32 10.1	8:49 2.0	16:56 10.5	20:47 8.6												
	S	3	3:26 10.6	9:29 6.2	15:21 9.0	20:50 4.7		M	3	2:28 10.0	8:54 4.0	16:10 9.7	20:44 6.7		Th	3	1:38 10.1	9:20 1.2	17:35 11.0	21:20 9.0												
	S	4	3:48 10.3	9:41 5.5	16:08 9.2	21:23 5.2		Tu	4	2:51 9.8	9:19 3.3	16:50 10.1	21:21 7.1		F	4	1:43 10.3	9:54 0.5	18:13 11.3	22:06 9.3												
	M	5	4:00 9.9	10:00 4.8	16:43 9.6	21:55 5.4		W	5	3:06 9.8	9:48 2.5	17:28 10.4	21:56 7.4		S	5	2:00 10.4	10:32 0.1	18:53 11.6	23:16 9.6												
	Tu	6	4:15 9.8	10:28 4.2	17:23 9.8	22:28 6.0		Th	6	3:15 9.9	10:18 1.7	18:11 10.6	22:39 8.2		S	6	2:30 10.5	11:13 0.1	19:35 11.9	23:55 9.9												
	W	7	4:38 9.7	10:57 3.5	18:06 10.0	23:04 6.7		F	7	3:19 10.0	10:54 1.2	18:56 11.1	23:25 8.8		M	7	0:27 9.7	3:09 10.0	11:54 0.4	20:13 11.9												
	Th	8	4:51 9.6	11:29 2.9	18:53 10.2	23:43 7.4		S	8	3:22 10.0	11:34 1.0	19:56 11.3	23:40 8.8		Tu	8	1:50 9.4	3:50 9.5	12:42 1.1	20:58 12.0												
	F	9	5:00 9.6	12:04 2.4	19:46 10.3	24:11 8.1		S	9	0:20 9.2	3:43 10.0	12:18 1.0	20:40 11.4		W	9	13:39 2.1	21:40 11.8	22:55 12.1	23:55 12.1												
	S	10	0:21 8.1	4:49 9.6	12:47 2.2	20:48 10.2		M	10	1:20 9.5	4:06 9.7	13:04 1.3	21:36 11.5		Th	10	4:47 7.6	7:53 7.7	14:37 3.3	22:20 11.5												
	S	11	1:18 8.8	5:11 9.7	13:37 2.1	22:01 10.3		Tu	11	13:58 1.9	22:21 11.5	18:56 11.5	23:16 11.5		F	11	5:28 6.7	10:03 7.5	15:41 4.7	22:57 11.1												
	M	12	2:18 9.2	5:33 9.7	14:34 2.2	23:16 10.5		W	12	5:45 8.3	7:10 8.4	15:02 2.6	23:16 11.3		S	12	5:57 5.3	12:02 7.9	16:44 5.9	23:29 10.9												
C	Tu	13	3:15 9.4	6:30 9.5	15:31 2.5	23:48 2.8	Th	13	6:33 7.5	9:25 7.8	16:12 8.5	23:58 11.2	S	13	6:37 4.0	13:40 8.7	17:46 6.9	23:58 10.9														
	W	14	0:08 10.8	6:10 9.0	7:50 9.4	16:40 2.8	F	14	6:47 6.5	11:41 7.8	17:22 4.5	24:00 11.2	M	14	0:02 10.9	7:18 2.6	14:52 9.6	23:47 7.7														
	Th	15	1:00 10.9	7:15 7.9	10:58 9.3	17:48 3.2	S	15	0:33 10.9	7:14 5.3	13:22 8.5	18:23 5.5	Tu	15	0:43 11.0	8:00 1.5	15:52 10.4	23:42 8.3														
	F	16	1:36 10.9	7:34 7.0	12:50 9.3	18:54 3.1	S	16	1:04 10.7	7:38 4.1	14:38 9.4	19:20 6.1	W	16	1:18 10.9	8:40 0.8	16:44 10.9	20:28 9.0														
	S	17	2:07 10.9	8:06 5.9	14:10 9.4	19:48 4.3	M	17	1:35 10.7	8:16 2.8	15:32 10.1	20:08 6.8	Th	17	1:49 10.9	9:21 0.3	17:32 10.9	21:18 9.5														
	S	18	2:36 10.6	8:41 4.6	15:10 9.9	20:38 4.9	Tu	18	2:12 10.8	8:55 1.9	16:29 10.7	20:59 7.4	F	18	2:18 10.9	10:00 0.1	18:17 11.3	22:17 9.6														
	M	19	3:02 10.6	9:18 3.6	16:07 10.4	21:24 5.3	W	19	2:41 10.7	9:34 1.1	17:22 11.1	21:44 8.0	S	19	2:48 10.4	10:38 0.3	19:00 11.8	22:50 9.7														
	Tu	20	3:35 10.6	9:58 2.6	17:02 10.8	22:09 6.2	Th	20	3:10 10.7	10:15 0.6	18:15 11.2	22:32 8.7	S	20	3:00 10.0	11:18 0.7	19:40 11.3	23:00 9.9														
	W	21	4:08 10.7	10:35 1.9	18:00 11.0	22:54 7.0	F	21	3:38 10.6	10:57 0.5	19:06 11.5	23:24 9.1	M	21	0:08 9.4	3:06 9.5	11:56 1.3	20:15 11.5														
	Th	22	4:38 10.7	11:19 1.5	18:57 11.0	23:40 7.5	S	22	4:08 10.3	11:39 0.7	19:59 11.6	23:40 8.8	Tu	22	12:30 2.1	20:48 11.5	22:48 11.5	23:40 11.5														
	F	23	5:08 10.4	12:06 1.4	20:00 11.0	24:11 8.1	S	23	0:25 9.3	4:21 9.8	12:21 1.2	20:48 11.5	W	23	4:50 8.1	6:22 8.2	13:15 3.0	21:20 11.4														
	N	S	24	0:35 8.4	5:36 10.1	12:53 1.6	21:06 10.8	M	24	1:30 9.0	5:10 9.1	13:06 1.9	21:35 11.5	Th	24	5:34 7.3	8:00 7.4	14:02 4.2	21:54 11.2													
S		25	1:44 8.9	6:04 9.5	13:46 2.1	22:14 10.9	Tu	25	13:54 2.8	22:20 11.4	18:56 11.4	23:16 11.5	F	25	5:50 6.3	9:48 7.0	14:47 5.4	22:18 10.7														
M		26	14:41 2.7	23:18 11.1	15:10 11.1	20:38 4.9	W	26	6:35 7.5	8:03 7.6	14:50 8.7	23:04 11.2	S	26	5:55 5.5	11:50 7.2	15:37 6.3	22:42 10.5														
Tu		27	6:44 8.1	8:00 8.2	15:43 3.4	20:48 11.0	Th	27	6:57 6.6	10:09 7.2	15:52 4.7	23:52 11.0	S	27	6:15 4.7	13:29 7.9	16:35 7.1	23:02 10.4														
W		28	0:10 11.0	7:43 7.5	10:20 7.7	16:45 4.1	F	28	7:21 5.9	12:23 7.3	16:52 5.7	23:04 11.0	M	28	6:40 3.7	14:37 8.6	17:37 7.8	23:35 10.2														
Th		29	0:52 10.9	8:02 6.7	12:19 7.8	17:52 4.7	S	29	0:12 10.5	7:31 5.1	13:46 7.8	17:44 6.5	Tu	29	7:10 2.8	15:28 9.3	18:30 8.3	23:47 10.2														
F		30	1:26 10.8	8:25 5.9	13:44 8.1	18:48 5.3	S	30	0:32 10.3	7:40 4.5	14:41 8.4	18:31 7.0	W	30	7:42 2.0	16:10 10.0	19:20 9.0	23:54 10.3														
							M	31	0:49 10.2	8:00 3.5	15:31 9.3	19:19 7.4																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from 2 feet below Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance 15:47 is 3.47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.
	W.	Mo.			W.	Mo.			W.	Mo.	
O	Th	1	8:19 16:50 20:00 1.1 10.8 9.5	○	S	1	1:07 9:14 17:27 21:49 10.1 0.2 11.3 9.0	E	W	1	4:18 10:29 17:31 23:08 10.0 2.5 11.2 5.5
	F	2	0:24 8:55 17:27 21:06 10.5 0.4 11.4 9.7	P	M	2	2:25 9:58 17:55 22:42 9.9 0.4 11.8 8.3		Th	2	5:15 11:14 18:00 23:57 9.9 3.5 11.1 4.6
	S	3	0:56 9:33 18:02 22:00 10.6 0.0 11.7 9.7		Tu	3	3:37 10:42 18:23 23:35 9.8 0.8 11.8 7.7		F	3	6:16 11:59 18:30 9.9 4.7 10.9
	S	4	1:38 10:14 18:33 22:58 10.5 -0.2 11.9 9.5		W	4	4:47 11:27 18:55 9.5 1.7 11.6		S	4	0:43 7:24 12:44 19:05 3.8 9.8 5.6 10.7
	M	5	2:32 10:58 19:07 23:58 10.1 0.0 12.2 9.2		Th	5	0:30 5:57 12:15 19:27 6.7 9.1 2.8 11.5		S	5	1:37 8:41 13:31 19:42 3.3 9.5 6.8 10.5
P	Tu	6	3:38 11:42 19:42 9.6 0.6 12.2	E	F	6	1:30 7:10 13:03 19:58 5.9 8.7 4.8 11.1	C	M	6	2:40 10:13 14:25 20:20 2.9 9.4 7.9 10.3
	W	7	1:04 5:04 12:28 20:18 8.3 8.9 1.5 12.0		S	7	2:22 8:31 13:50 20:31 4.9 8.7 5.7 11.0		Tu	7	3:48 12:02 15:40 21:05 2.6 9.8 8.3 9.9
	Th	8	2:17 6:40 13:20 20:54 7.6 8.4 2.7 11.7		S	8	3:26 10:09 14:43 21:11 4.0 8.5 6.9 10.8		W	8	4:56 13:26 17:10 21:58 2.3 10.2 9.2 9.5
	F	9	3:28 8:17 14:13 21:28 6.5 7.9 4.4 11.3		M	9	4:32 12:08 15:44 21:56 3.2 8.9 7.9 10.5		Th	9	6:01 14:24 19:30 23:15 2.2 10.6 9.0 9.3
	S	10	4:18 10:02 15:07 22:00 5.4 7.9 5.8 11.1	N	Tu	10	5:37 13:47 16:50 22:38 2.4 9.6 8.8 10.4		F	10	7:00 15:07 21:15 2.2 10.9 8.5
E	S	11	5:12 12:02 16:05 22:37 4.1 8.1 6.9 11.0		W	11	6:35 14:54 18:00 23:30 1.7 10.5 9.4 10.2	N	S	11	0:35 7:47 15:41 21:25 9.0 2.4 11.1 8.2
	M	12	6:08 13:45 17:12 23:18 2.9 9.1 7.9 10.9		Th	12	7:27 15:45 18:52 1.3 10.9 9.6		S	12	1:50 8:28 16:12 21:46 9.0 2.7 11.0 7.7
	Tu	13	6:57 14:59 18:15 23:59 1.8 9.9 8.9 10.9		F	13	8:20 8:12 16:23 20:15 10.0 1.1 11.0 9.5		M	13	2:51 9:02 16:33 22:03 9.2 3.2 10.8 7.0
	W	14	7:45 15:57 19:16 1.0 10.5 9.4		S	14	1:22 8:54 16:58 21:30 9.8 1.2 11.0 9.1		Tu	14	3:42 9:39 16:52 22:25 9.2 3.7 10.5 6.3
	Th	15	9:38 8:27 16:44 20:00 10.7 0.5 10.8 9.7	C	S	15	2:21 9:29 17:27 22:16 9.6 1.6 11.1 8.5	E	W	15	4:29 10:14 17:10 22:51 9.3 4.4 10.3 5.6
N	F	16	1:20 9:08 17:27 21:00 10.5 0.4 10.9 9.7		M	16	3:16 10:03 17:53 22:51 9.4 2.1 11.2 7.7		Th	16	5:10 10:45 17:25 23:23 9.3 5.0 10.0 4.9
	S	17	2:00 9:50 18:04 21:32 10.4 0.5 11.3 9.6		Tu	17	4:09 10:34 18:13 23:29 9.2 2.6 10.9 7.2		F	17	5:55 11:15 17:41 23:56 9.4 5.4 9.8 4.4
	S	18	2:44 10:24 18:37 22:00 9.9 0.8 11.5 9.2		W	18	4:59 11:10 18:31 9.0 3.3 10.8		S	18	6:44 11:48 18:02 9.4 6.2 9.7
	M	19	3:35 10:59 19:07 9.7 1.4 11.6		Th	19	0:08 5:47 11:45 18:52 6.7 8.7 4.2 10.6	A	S	19	0:30 7:36 12:24 18:21 4.0 9.3 7.0 9.7
A	Tu	20	0:08 4:32 11:32 19:50 8.6 9.1 2.0 11.5	E	F	20	0:50 6:40 12:16 19:10 6.1 8.5 5.1 10.3		M	20	1:07 8:36 13:04 18:27 3.5 9.3 7.8 9.5
	W	21	1:07 5:30 12:08 19:55 7.9 8.5 2.8 11.2		S	21	1:26 7:38 12:48 19:33 5.4 8.5 5.9 10.2		Tu	21	1:54 9:50 13:55 18:25 3.2 9.4 8.5 9.6
	Th	22	2:12 6:34 12:48 20:22 7.3 7.9 3.8 11.0		S	22	2:10 8:52 13:30 20:00 4.7 8.3 6.6 9.9		W	22	2:48 11:26 14:48 18:43 3.0 9.5 8.0 9.5
	F	23	3:12 7:46 13:25 20:45 6.8 7.6 5.0 10.6		M	23	2:59 10:25 14:10 20:30 4.8 8.3 7.6 9.8	D	Th	23	3:47 12:48 16:55 19:20 2.8 10.2 9.2 9.3
	S	24	3:42 9:08 14:00 21:08 5.9 7.4 6.1 10.5	D	Tu	24	3:52 12:28 15:10 20:34 3.7 8.8 8.3 9.7		F	24	4:50 13:42 18:10 20:47 2.7 10.6 8.8 8.9
D	S	25	4:22 10:56 14:41 21:32 5.0 7.7 6.8 10.4		W	25	4:46 13:50 16:11 20:38 3.1 9.5 9.1 9.7		S	25	5:51 14:14 19:24 23:41 2.7 10.8 8.2 8.7
	M	26	5:07 13:01 15:40 22:15 4.1 8.0 7.7 10.2		Th	26	5:35 14:36 17:04 21:28 2.6 10.1 9.4 9.7		S	26	6:52 14:43 20:00 2.7 10.9 7.3
	Tu	27	5:48 14:24 16:47 22:23 3.2 8.9 8.4 10.1		F	27	6:31 15:16 18:50 22:51 2.0 10.7 9.2 9.7		M	27	1:20 7:47 15:12 20:40 8.9 2.8 10.9 6.4
	W	28	6:28 15:15 17:10 22:33 2.5 9.9 9.8 10.2		S	28	7:20 15:43 20:00 1.6 11.0 8.8	O	Tu	28	2:32 8:38 15:38 21:18 9.5 3.2 10.9 5.2
S	Th	29	7:10 15:53 18:35 23:07 1.7 10.5 9.5 10.3		S	29	8:07 8:08 16:10 20:48 9.5 1.4 11.3 8.2		W	29	3:30 9:25 16:05 22:00 10.0 3.9 10.9 4.1
	F	30	7:50 16:28 19:50 23:58 1.0 11.1 9.6 10.2		○	M	30	1:58 8:54 16:37 21:35 9.6 1.4 11.4 7.2	Th	30	4:28 10:09 16:31 22:42 10.4 4.4 10.7 3.4
	S	31	8:33 17:00 20:53 0.5 11.4 9.4		P	Tu	31	3:10 9:41 17:03 22:21 9.9 1.8 11.3 6.5			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from 2 feet below Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N C	F	1	5:26 10.7	10:52 5.2	17:05 10.7	23:25 2.6				M	1	7:43 11.3	12:03 8.6	17:11 10.5				W	1	0:05 0.6	8:31 11.7	13:10 9.3	16:10 9.4						
	S	2	6:28 10.7	11:36 6.2	17:38 10.7				N	Tu	2	0:33 1.0	8:47 11.1	13:10 9.0	17:41 9.9			Th	2	0:53 1.4	9:18 11.6								
	S	3	0:11 2.2	7:32 10.7	12:22 7.2	18:11 10.4				W	3	1:25 1.5	9:52 11.2	14:46 9.0	17:50 9.1			F	3	1:40 2.3	10:03 11.4	18:00 7.6	19:28 7.7						
	M	4	1:04 2.0	8:46 10.6	13:14 8.1	18:45 10.1			C	Th	4	2:18 2.3	10:54 11.3				C	S	4	2:29 3.4	10:45 11.3	18:35 7.0	21:26 7.4						
	Tu	5	2:02 2.1	10:11 10.4	14:25 8.7	19:23 9.8				F	5	3:17 3.1	11:46 11.1	19:26 7.6	21:34 7.8			S	5	3:28 4.6	11:24 11.1	19:08 5.7	23:36 7.4						
	W	6	3:04 2.4	11:38 10.6	16:00 9.0	20:12 9.1				S	6	4:19 3.9	12:30 11.0	19:41 6.7	23:40 7.6		E	M	6	4:27 5.8	11:58 10.6	19:28 5.1							
	Th	7	4:11 2.8	12:48 10.9	18:40 8.4	21:40 8.7				S	7	5:25 4.7	13:06 10.9	20:08 5.8			A	Tu	7	1:18 8.0	5:18 6.3	12:22 10.4	19:40 4.3						
	F	8	5:18 3.1	13:36 11.0	20:24 7.8	23:28 8.4				M	8	1:20 7.7	6:25 8.5	13:39 10.4	20:30 5.1			W	8	2:25 8.5	6:07 7.2	12:38 10.4	20:00 3.4						
	S	9	6:16 3.6	14:12 11.0	20:42 7.1				A	Tu	9	2:28 8.6	7:11 6.2	14:00 10.1	20:38 4.5			Th	9	3:20 9.0	6:56 7.6	12:58 10.0	20:16 2.6						
	S	10	1:05 8.4	7:07 4.1	14:41 10.8	21:05 6.5				W	10	3:18 9.2	7:48 6.6	14:14 10.0	20:51 3.6			F	10	4:09 9.7	7:37 8.3	13:21 10.2	20:41 2.0						
E A	M	11	2:16 8.8	7:57 4.6	15:08 10.6	21:22 6.8				Th	11	4:01 9.7	8:24 7.1	14:31 9.8	21:11 3.0			S	11	4:52 10.3	8:18 8.9	13:19 10.2	21:09 1.4						
	Tu	12	3:11 9.1	8:38 5.1	15:32 10.0	21:35 6.1			●	F	12	4:46 10.1	9:00 7.6	14:51 9.7	21:38 2.3		●	S	12	5:31 10.7	9:08 9.3	13:19 10.3	21:40 0.7						
	W	13	3:57 9.5	9:10 5.6	15:45 9.9	21:51 4.4				S	13	5:27 10.5	9:35 8.0	14:54 9.8	22:07 1.7			M	13	6:11 11.2	9:48 9.5	13:36 10.4	22:16 0.4						
	Th	14	4:40 9.7	9:38 5.9	15:59 9.7	22:14 3.9				S	14	6:08 10.8	10:13 8.5	14:50 9.8	22:39 1.2		S	Tu	14	6:47 11.5	10:42 9.6	14:06 10.5	22:56 0.2						
	F	15	5:18 9.9	10:11 6.5	16:20 9.7	22:42 3.2				M	15	6:51 11.0	10:53 9.0	14:51 9.9	23:16 0.9			W	15	7:21 11.6	11:41 9.7	14:48 10.0	23:38 0.5						
	S	16	6:00 10.1	10:44 7.0	16:30 9.7	23:11 2.7		S	Tu	16	7:35 11.3	11:51 9.5	15:08 9.9	23:57 0.9			Th	16	8:00 11.7	12:34 9.5	15:35 9.6								
	S	17	6:46 10.3	11:20 7.6	16:33 9.7	23:45 2.2				W	17	8:25 11.4	12:20 9.6	15:43 9.8			F	17	0:23 1.0	8:37 11.8	14:19 8.5	16:42 8.9							
	M	18	7:34 10.4	12:00 8.3	16:29 9.7					Th	18	0:43 1.1	9:13 11.5	13:40 9.3	16:00 9.5			S	18	1:12 1.9	9:16 11.8	15:43 7.7	18:52 8.0						
	Tu	19	0:26 2.0	8:32 10.5	12:51 8.8	16:39 9.6				F	19	1:33 1.7	10:12 11.5			D	S	19	2:07 3.1	9:51 11.5	16:45 6.8	21:00 7.6							
	S	W	20	1:12 1.9	9:37 10.6	13:38 9.3	17:01 9.4		D	S	20	2:30 2.6	10:50 11.5	18:11 7.6	20:04 7.8		E	M	20	3:02 4.5	10:26 11.1	17:25 5.4	23:05 7.6						
D	Th	21	4:04 2.1	10:48 10.7					S	21	3:37 3.5	11:27 11.3	18:22 6.7	22:43 7.7			Tu	21	4:01 5.9	10:58 11.0	18:06 4.0								
	F	22	5:03 2.5	11:48 10.8					M	22	4:41 4.6	12:00 10.9	18:50 5.4				W	22	1:00 8.4	5:01 7.0	11:30 11.1	18:52 2.7							
	S	23	4:07 2.9	12:31 10.9	19:06 7.9	22:04 8.1		E	Tu	23	0:41 7.9	5:43 5.7	12:30 10.8	19:14 4.0		P	Th	23	2:26 9.2	6:04 7.7	12:10 11.1	19:36 1.5							
	S	24	5:18 3.4	13:08 10.9	19:18 7.0				W	24	2:05 9.0	6:39 6.3	13:00 10.9	19:53 2.7			F	24	3:32 10.1	7:00 8.5	12:47 11.0	20:20 0.7							
	M	25	0:18 8.1	6:23 4.0	13:41 10.9	19:47 5.7		P	Th	25	3:12 9.8	7:32 7.0	13:37 10.9	20:33 1.7			S	25	4:27 10.5	7:51 9.1	13:23 11.0	21:03 0.1							
E	Tu	26	1:47 8.8	7:18 4.7	14:07 10.5	20:22 4.5			F	26	4:11 10.5	8:23 7.6	14:11 11.0	21:14 0.8		N	S	26	5:16 10.8	8:46 9.6	13:57 10.9	21:42 -0.1							
P	W	27	2:51 9.7	8:09 5.2	14:33 10.6	20:54 3.3		O	S	27	5:04 11.0	9:08 8.4	14:40 11.1	21:58 0.2			M	27	6:00 11.1	9:40 9.6	14:38 10.8	22:24 0.0							
O	Th	28	3:49 10.3	8:55 5.7	15:05 10.7	21:32 2.3			S	28	5:57 11.1	9:57 8.8	15:11 11.0	22:38 0.0			Tu	28	6:42 11.3	10:44 9.6	15:26 10.2	23:05 0.3							
	F	29	4:46 10.8	9:40 6.5	15:39 10.7	22:13 1.5		N	M	29	6:48 11.2	10:48 9.2	15:41 10.5	23:21 0.1			W	29	7:21 11.4	11:50 9.4	16:08 9.6	23:43 1.0							
	S	30	5:44 11.1	10:24 7.4	15:59 10.6	23:01 1.0			Tu	30	7:40 11.4	11:50 9.4	16:11 10.3				Th	30	8:00 11.5	12:58 8.9	17:06 9.2								
	S	31	6:41 11.1	11:11 8.0	16:43 10.6	23:45 0.8											F	31	0:22 1.8	8:31 11.7	15:11 8.0	18:14 8.2							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from 2 feet below Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Pacific Standard, 120th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N C A E C S P E D	F	1	1:51 3.0	8:08 9.6	15:02 1.2	21:26 7.8	N	M	1	3:42 4.7	9:37 9.5	16:44 -0.3	23:33 7.9	N	M	1	2:19 5.0	8:07 8.1	15:29 0.8	22:30 7.6									
	S	2	2:53 8.5	9:03 9.9	16:02 0.3	22:33 7.9	N	Tu	2	4:44 4.4	10:30 9.7	17:30 -0.8		N	Tu	2	3:44 4.8	9:21 8.7	16:26 0.3	23:20 8.2									
	S	3	3:52 3.8	9:54 10.3	16:54 -0.6	23:31 8.2		W	3	0:07 8.4	5:54 4.2	11:17 10.0	18:11 -1.1	W	3	4:45 4.3	10:22 9.0	17:11 -0.1	23:57 8.7										
	M	4	4:45 3.9	10:41 10.5	17:39 -1.3		O	Th	4	0:55 8.7	6:17 3.8	12:00 10.1	18:46 -1.2	Th	4	5:31 3.8	11:11 9.3	17:50 -0.3											
	Tu	5	0:20 8.5	5:34 3.9	11:25 10.7	18:21 -1.7		F	5	1:27 9.1	6:55 3.6	12:41 10.1	19:19 -1.0	F	5	0:28 9.2	6:08 3.3	11:53 9.6	18:23 -0.3										
	W	6	1:03 8.7	6:13 3.9	12:06 10.7	19:00 -1.8		S	6	1:57 9.2	7:29 3.3	13:17 9.9	19:48 -0.5	O A	S	6	0:55 9.5	6:41 2.8	12:32 9.8	18:51 0.0									
	Th	7	1:44 8.8	6:59 3.9	12:48 10.5	19:37 -1.6	A	S	7	2:21 9.4	8:02 3.0	13:52 9.6	20:15 0.0	O A	S	7	1:17 9.7	7:11 2.3	13:05 9.7	19:17 0.4									
	F	8	2:21 8.9	7:40 3.9	13:26 10.1	20:12 -1.1		M	8	2:45 9.5	8:36 2.9	14:25 9.2	20:42 0.6	E	M	8	1:38 9.8	7:39 1.9	13:36 9.5	19:47 0.8									
	S	9	2:56 8.9	8:18 3.9	14:03 9.6	20:45 -0.5	E	Tu	9	3:11 9.4	9:11 2.8	15:00 8.6	21:14 1.2	Tu	9	2:00 9.9	8:09 1.6	14:08 9.2	20:12 1.3										
	S	10	3:26 8.8	9:02 3.9	14:40 9.0	21:17 0.2		W	10	3:38 9.4	9:45 2.7	15:40 8.2	21:43 2.1	W	10	2:27 9.7	8:36 1.4	14:43 8.9	20:40 1.7										
M	11	4:00 8.9	9:47 4.0	15:20 8.3	21:50 1.0		Th	11	4:04 9.1	10:27 2.5	16:24 7.5	22:15 2.5	Th	11	2:51 9.6	9:09 1.4	15:15 8.5	21:08 2.4											
Tu	12	4:34 8.9	10:35 4.0	16:04 7.7	22:25 1.7		F	12	4:40 9.0	11:20 2.5	17:17 6.9	22:52 3.5	F	12	3:19 9.4	9:50 1.5	15:58 7.8	21:38 3.2											
W	13	5:10 8.8	11:23 3.9	17:00 7.1	23:06 2.5	C	S	13	5:25 8.8	12:25 2.3	18:37 6.3	23:48 4.2	S	13	3:53 9.2	10:39 1.6	16:53 7.1	22:18 3.9											
Th	14	5:46 8.7	12:19 3.5	18:08 6.6	23:52 3.3		S	14	6:21 8.8	13:43 1.8	20:27 6.3		C	S	14	4:35 9.0	11:41 1.7	18:10 6.5	23:15 4.5										
F	15	6:31 8.7	13:26 3.0	19:32 6.3			M	15	1:07 4.8	7:30 8.9	14:56 1.1	21:52 6.9		M	15	5:35 8.8	12:58 1.6	19:55 6.6											
S	16	0:48 3.9	7:23 8.9	14:33 2.1	21:00 6.4	S	Tu	16	2:38 4.8	8:42 9.3	15:58 0.2	22:49 7.5	S	Tu	16	0:42 5.1	6:55 8.7	14:21 1.2	21:23 7.1										
S	17	1:55 4.5	8:18 9.2	15:33 1.1	22:10 6.8		W	17	3:53 4.5	9:49 9.9	16:50 -0.8	23:34 8.6		W	17	2:27 5.1	8:21 8.9	15:30 0.5	22:18 7.9										
M	18	3:05 4.4	9:14 9.7	16:25 0.0	23:06 7.5		Th	18	4:52 3.8	10:48 10.6	17:37 -1.5			Th	18	3:42 4.3	9:35 9.5	16:24 -0.2	23:00 8.9										
Tu	19	4:07 4.3	10:09 10.3	17:12 -1.0	23:54 8.2		F	19	0:13 9.2	5:43 3.0	11:40 11.3	18:19 -1.9		F	19	4:40 3.2	10:37 10.2	17:12 -0.7	23:38 9.9										
W	20	5:03 4.1	11:00 10.8	17:56 -1.8		● P	S	20	0:51 10.0	6:29 2.1	12:30 11.6	19:00 -2.0		S	20	5:30 2.0	11:30 10.9	17:54 -0.9											
Th	21	0:36 8.8	5:52 3.6	11:49 11.3	18:39 -2.4		S	21	1:26 10.5	7:15 1.3	13:19 11.6	19:41 -1.6	P	S	21	0:12 10.6	6:14 0.8	12:22 11.3	18:35 -0.8										
F	22	1:16 9.3	6:40 3.1	12:37 11.5	19:20 -2.4	E	M	22	2:02 10.8	8:01 0.7	14:06 11.3	20:21 -0.9	P E	M	22	0:50 11.1	6:58 -0.1	13:10 11.4	19:20 -0.6										
S	23	1:55 9.7	7:28 2.6	13:26 11.5	20:03 -2.1		Tu	23	2:40 10.9	8:49 0.4	14:56 10.6	21:07 0.1		Tu	23	1:32 11.3	7:43 -0.5	13:57 11.3	20:00 0.0										
S	24	2:34 10.1	8:16 2.3	14:14 11.0	20:46 -1.5		W	24	3:20 10.7	9:34 0.5	15:45 9.8	21:50 1.1		W	24	2:08 11.2	8:23 -0.7	14:40 10.5	20:39 1.0										
M	25	3:14 10.2	9:07 2.0	15:05 10.4	21:29 -0.5		Th	25	4:03 10.3	10:28 0.7	16:43 8.7	22:36 2.4		Th	25	2:46 11.0	9:12 -0.5	15:33 9.6	21:22 2.1										
Tu	26	3:56 10.2	10:02 1.9	16:00 9.5	22:14 0.6	D	F	26	4:49 9.8	11:34 1.0	17:57 7.7	23:31 3.6		F	26	3:27 10.4	10:15 -0.2	16:30 8.6	22:08 3.2										
W	27	4:42 10.1	10:56 1.9	17:03 8.7	23:09 1.8		S	27	5:42 9.3	12:50 1.3	19:36 7.1			S	27	4:12 9.8	11:06 0.4	17:43 7.6	23:06 4.2										
Th	28	5:30 9.6	12:04 1.9	18:17 7.8			S	28	0:44 4.6	6:49 8.8	14:15 1.2	21:16 7.2	D N	S	28	5:07 9.0	12:17 1.0	19:20 7.3											
F	29	0:05 3.0	6:26 9.4	13:21 1.7	19:48 7.2									M	29	0:28 5.1	6:17 8.3	13:39 1.2	20:54 7.4										
S	30	1:13 3.9	7:28 9.3	14:40 1.2	21:21 7.1									Tu	30	2:14 5.1	7:42 7.9	14:55 1.2	22:01 7.9										
S	31	2:29 4.5	8:34 9.3	15:49 0.4	22:36 7.5									W	31	3:37 4.6	9:03 8.0	15:53 1.0	22:46 8.6										

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 5.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Sitka Standard, 135th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	4:34 3.8	10:08 8.3	16:40 1.0	23:18 9.2					S	1	4:42 2.5	10:33 7.9	16:34 2.2	22:51 9.4					Tu	1	5:08 0.7	11:28 8.0	16:50 3.5	22:55 10.0						
	F	2	5:13 3.1	10:58 8.7	17:17 1.1	23:43 9.5					E S	2	5:11 1.8	11:15 8.5	17:08 2.3	23:18 9.7					W	2	5:42 -0.2	12:10 8.3	17:28 3.5	23:30 10.3						
	S	3	5:47 2.3	11:40 9.0	17:47 1.2						M	3	5:40 1.1	11:52 8.7	17:37 2.4	23:45 10.0					Th	3	6:16 -0.8	12:50 8.4	18:05 3.6							
	S	4	0:07 9.8	6:17 1.6	12:15 9.2	18:22 1.3					Tu	4	6:08 0.4	12:27 8.9	18:07 2.6						F	4	0:04 10.5	6:53 -1.3	13:30 8.6	18:45 3.7						
	M	5	0:35 9.8	6:45 1.2	12:47 9.5	18:47 1.4					W	5	0:10 10.1	6:40 -0.1	13:02 9.0	18:37 2.8					S	5	0:40 10.6	7:32 -1.5	14:12 8.6	19:27 3.9						
E	Tu	6	0:57 10.0	7:08 0.8	13:20 9.4	19:12 1.7					Th	6	0:37 10.3	7:12 -0.5	13:38 8.8	19:08 3.1					S	6	1:20 10.5	8:13 -1.6	14:57 8.6	20:12 4.1						
	W	7	1:20 10.0	7:35 0.4	13:50 9.2	19:38 2.2					F	7	1:07 10.4	7:47 -0.7	14:17 8.6	19:42 3.4					M	7	2:03 10.2	8:58 -1.2	15:43 8.7	21:03 4.2						
	Th	8	1:43 10.0	8:07 0.2	14:25 8.9	20:07 2.7					S	8	1:37 10.2	8:27 -0.8	15:00 8.3	20:20 3.9					Tu	8	2:52 9.7	9:46 -0.7	16:33 8.8	22:15 4.2						
	F	9	2:10 10.0	8:43 0.1	15:05 8.5	20:38 3.3					S S	9	2:15 10.0	9:10 -0.6	15:50 8.2	21:05 4.3					W	9	3:47 9.0	10:38 0.1	17:28 8.8	23:15 4.1						
	S	10	2:40 9.8	9:25 0.3	15:51 8.0	21:14 3.9					M	10	2:57 9.6	10:00 -0.2	16:50 8.0	22:02 4.7					Th	10	4:54 8.4	11:35 0.9	18:22 9.0							
P	S	11	3:17 9.5	10:13 0.5	16:48 7.5	22:02 4.5					Tu	11	3:50 9.0	10:57 0.3	17:53 8.0	23:18 4.9					F	11	0:30 3.6	6:13 7.9	12:35 1.6	19:15 9.3						
	M	12	4:04 9.1	11:14 0.9	18:03 7.3	23:12 5.1					W	12	4:58 8.4	12:02 0.9	18:59 8.2					E S	12	1:38 2.7	7:37 7.8	13:43 2.2	20:08 9.4							
	Tu	13	5:08 8.5	12:27 1.2	19:30 7.3						Th	13	0:47 4.5	6:25 8.0	13:10 1.4	20:00 8.6					S	13	2:42 1.7	8:53 8.1	14:44 2.7	21:00 9.9						
	W	14	0:50 5.1	6:36 8.2	13:46 1.3	20:42 7.9					F	14	2:07 3.6	7:55 8.0	14:15 1.7	20:52 9.3					M	14	3:42 0.6	10:02 8.3	15:39 3.0	21:46 10.4						
	Th	15	2:21 4.4	8:07 8.4	14:50 1.2	21:35 8.7					E S	15	3:10 2.4	9:10 8.4	15:19 1.7	21:37 9.7					Tu	15	4:35 -0.4	11:02 8.5	16:29 3.3	22:32 10.5						
N	F	16	3:31 3.3	9:25 8.9	15:51 0.9	22:17 9.6					P S	16	4:00 1.2	10:14 9.2	16:12 1.8	22:22 10.4					W	16	5:24 -1.3	11:57 8.8	17:18 3.5	23:17 11.1						
	S	17	4:25 1.9	10:27 9.6	16:40 0.7	22:57 10.2					M	17	4:49 -0.1	11:09 9.6	16:57 2.0	23:03 11.0					Th	17	6:10 -1.9	12:47 8.9	18:06 3.6							
	S	18	5:10 0.7	11:21 10.3	17:28 0.6	23:41 10.8					Tu	18	5:35 -1.1	12:02 9.8	17:42 2.2	23:44 11.3					F	18	0:02 11.2	6:55 -2.1	13:36 8.9	18:52 3.8						
	M	19	5:52 -0.3	12:07 10.8	18:10 0.5						W	19	6:21 -1.9	12:50 9.8	18:23 2.5					S	19	0:45 10.9	7:40 -2.0	14:20 8.9	19:38 3.9							
	Tu	20	0:18 11.3	6:35 -1.2	12:55 10.8	18:50 1.0					Th	20	0:25 11.5	7:06 -2.2	13:40 9.5	19:07 2.9					S	20	1:25 10.5	8:21 -1.6	15:07 8.9	20:25 4.0						
D	W	21	0:56 11.5	7:20 -1.7	13:43 10.6	19:31 1.6					F	21	1:05 11.3	7:52 -2.1	14:28 9.2	19:50 3.4					M	21	2:12 9.9	9:03 -0.9	15:49 9.0	21:16 4.2						
	Th	22	1:34 11.4	8:07 -1.8	14:33 9.8	20:12 2.3					N S	22	1:47 10.9	8:37 -1.7	15:20 8.9	20:40 3.9					Tu	22	2:57 9.1	9:44 -0.1	16:33 8.9	22:12 4.3						
	F	23	2:14 11.0	8:53 -1.4	15:25 9.2	20:57 3.1					S	23	2:30 10.1	9:25 -1.0	16:13 8.5	21:33 4.3					W	23	3:45 8.3	10:26 0.8	17:17 8.8	23:13 4.3						
	S	24	2:55 10.4	9:45 -0.8	16:23 8.4	21:49 4.0					M	24	3:18 9.2	10:16 -0.1	17:10 8.3	22:37 4.7					Th	24	4:38 7.4	11:09 1.6	18:03 8.8							
	S	25	3:43 9.5	10:42 0.0	17:33 8.0	22:52 4.7					Tu	25	4:10 8.3	11:08 0.7	18:09 8.3	23:52 4.8					F	25	0:19 4.1	5:40 6.8	11:53 2.3	18:48 8.8						
A	M	26	4:37 8.5	11:44 0.8	18:50 7.8					W	26	5:15 7.5	12:03 1.3	19:07 8.5						E S	26	1:20 3.7	6:52 6.5	12:48 3.0	19:30 8.7							
	Tu	27	0:18 5.1	5:49 7.7	12:55 1.4	20:10 8.2					Th	27	1:15 4.5	6:32 6.9	13:01 2.2	20:00 8.6					S	27	2:13 3.2	8:07 6.5	13:40 3.6	20:11 8.9						
	W	28	1:56 4.9	7:17 7.3	14:05 1.8	21:08 8.4					A F	28	2:28 3.9	7:52 6.7	13:55 2.7	20:44 8.9					M	28	3:07 2.4	9:16 6.7	14:30 4.0	20:50 9.2						
	Th	29	3:13 4.2	8:40 7.3	15:05 2.0	21:50 8.8					E S	29	3:21 3.1	9:02 6.9	14:50 2.9	21:22 9.0					Tu	29	3:53 1.4	10:15 7.0	15:23 4.2	21:32 9.6						
	F	30	4:04 3.3	9:43 7.6	15:52 2.2	22:22 9.2					S	30	3:58 2.4	9:57 7.3	15:38 3.2	21:53 9.4					W	30	4:35 0.4	11:08 7.5	16:12 4.2	22:16 10.0						
										M	31	4:33 1.6	10:45 7.7	16:16 3.3	22:23 9.7																	

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●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
S	Th	1	5:17 -0.4	11:55 7.6	16:58 4.1	22:58 10.5	○	S	1	6:18 -1.7	12:55 8.9	18:18 3.3		W	1	0:57 11.4	7:15 -1.1	13:35 10.8	19:35 0.5										
	F	2	5:57 -1.2	12:38 8.0	17:43 4.0	23:43 10.8		M	2	0:16 11.2	7:00 -1.9	13:32 9.5	19:06 2.6	E	Th	2	1:42 11.2	7:55 -0.5	14:10 11.0	20:22 0.1									
	S	3	6:37 -1.7	13:18 8.5	18:30 3.8		P	Tu	3	1:04 11.3	7:41 -1.7	14:10 9.8	19:55 2.1		F	3	2:34 10.8	8:40 0.1	14:54 10.8	21:05 0.1									
	S	4	0:26 11.0	7:18 -1.9	13:57 8.8	19:16 3.5		W	4	1:52 11.0	8:22 -1.2	14:47 10.1	20:42 1.7		S	4	3:18 10.0	9:23 1.2	15:35 10.4	22:00 0.3									
	M	5	1:10 11.0	8:00 -1.8	14:39 9.0	20:05 3.3	E	Th	5	2:43 10.5	9:03 -0.4	15:28 10.3	21:34 1.6		S	5	4:17 8.9	10:10 2.4	16:19 10.0	23:03 0.6									
P	Tu	6	1:59 10.7	8:44 -1.4	15:22 9.2	20:57 3.2		F	6	3:35 9.7	9:48 0.6	16:11 10.1	22:25 1.5	☾	M	6	5:26 7.9	11:05 3.5	17:11 9.5										
	W	7	2:48 10.2	9:28 -0.7	16:05 9.4	21:52 3.0		S	7	4:35 9.0	10:39 1.7	16:57 9.8	23:28 1.5		Tu	7	0:16 0.9	7:00 7.1	12:12 4.5	18:17 9.1									
	Th	8	3:44 9.5	10:15 0.2	16:50 9.6	22:57 2.8	☾	S	8	5:42 8.0	11:32 2.8	17:50 9.6		N	W	8	1:38 0.9	8:40 7.1	13:46 5.0	19:36 8.8									
	F	9	4:47 8.7	11:05 1.2	17:40 9.6			M	9	0:42 1.4	7:08 7.4	12:35 8.7	18:50 9.5		Th	9	2:57 0.7	9:56 7.7	15:16 4.7	20:53 8.8									
	S	10	0:00 2.5	6:00 8.0	12:05 2.1	18:32 9.5		Tu	10	2:00 1.0	8:42 7.0	13:50 4.4	19:56 9.4		F	10	3:59 0.3	10:50 8.2	16:20 4.1	22:00 9.2									
E	S	11	1:07 2.0	7:22 7.6	13:05 3.0	19:27 9.7		W	11	3:15 0.5	10:03 7.2	15:08 4.6	21:03 9.0		S	11	4:47 0.0	11:30 8.8	17:08 3.5	22:52 9.5									
	M	12	2:20 1.3	8:44 7.4	14:10 3.6	20:04 9.9	N	Th	12	4:15 -0.1	11:05 7.7	16:14 4.5	22:03 9.8		S	12	5:27 -0.1	12:02 9.3	17:48 2.9	23:38 9.7									
	Tu	13	3:27 0.4	10:00 7.4	15:13 4.0	21:20 10.2		F	13	5:05 -0.6	11:51 8.2	17:10 4.1	22:56 10.1	●	M	13	6:03 0.0	12:31 9.6	18:23 2.3										
	W	14	4:26 -0.4	11:05 7.7	16:14 4.2	22:12 10.5		S	14	5:50 -0.9	12:30 8.7	17:56 3.6	23:42 10.2		Tu	14	0:18 9.8	6:33 0.3	12:55 9.9	18:55 1.7									
	Th	15	5:17 -1.1	11:57 8.1	17:08 4.1	23:02 10.7	●	S	15	6:28 -1.0	13:04 9.0	18:37 3.2		E	W	15	0:54 9.7	7:04 0.7	13:18 10.0	19:25 1.4									
N	F	16	6:02 -1.6	12:44 8.4	17:58 3.9	23:48 10.8		M	16	0:27 10.3	7:02 -0.8	13:36 9.4	19:15 2.9	A	Th	16	1:26 9.4	7:31 1.2	13:46 9.8	19:55 1.3									
	S	17	6:45 -1.7	13:26 8.6	18:43 3.8			Tu	17	1:07 10.1	7:34 -0.4	14:02 9.5	19:50 2.5		F	17	1:59 9.2	7:57 1.5	14:08 9.7	20:20 1.2									
	S	18	0:33 10.8	7:23 -1.6	14:05 8.9	19:27 3.7		W	18	1:44 9.6	8:02 0.3	14:27 9.6	20:25 2.4		S	18	2:31 8.7	8:22 2.1	14:33 9.6	20:53 1.2									
	M	19	1:17 10.4	8:00 -1.2	14:42 9.1	20:10 3.5	A	Th	19	2:18 9.2	8:31 0.9	14:53 9.6	21:01 2.4		S	19	3:04 8.2	8:48 2.8	14:59 9.4	21:33 1.3									
	Tu	20	1:57 9.8	8:36 -0.5	15:13 9.2	20:53 3.4	E	F	20	2:54 8.6	9:02 1.6	15:22 9.4	21:33 2.4		M	20	3:45 7.6	9:18 3.4	15:30 9.2	22:20 1.6									
A	W	21	2:38 9.2	9:10 0.3	15:46 9.2	21:38 3.4		S	21	3:33 8.1	9:30 2.4	15:48 9.2	22:16 2.4		Tu	21	4:37 6.9	9:55 4.1	16:10 8.9	23:18 1.7									
	Th	22	3:20 8.5	9:40 1.1	16:20 9.1	22:25 3.4		S	22	4:15 7.4	10:12 2.9	16:23 9.1	23:05 2.4	☾	W	22	5:50 6.3	10:50 4.8	17:07 8.6										
	F	23	4:02 7.7	10:18 1.8	16:55 9.1	23:12 3.4	☾	M	23	5:05 6.7	10:34 3.7	17:03 8.8		S	Th	23	0:32 1.8	7:32 6.3	12:22 5.1	18:25 8.3									
	S	24	4:55 7.2	10:55 2.7	17:29 8.8			Tu	24	0:06 2.3	6:20 6.2	11:25 4.4	17:58 8.7		F	24	1:53 1.5	8:57 7.0	14:05 5.0	19:55 8.5									
	S	25	0:05 3.3	5:55 6.6	11:33 3.4	18:11 8.8		W	25	1:20 2.0	8:06 6.1	12:40 4.9	19:03 8.7		S	25	3:02 1.0	9:50 7.9	15:20 4.3	21:10 9.1									
D	M	26	1:07 2.8	7:13 6.2	12:22 4.0	18:58 8.9	S	Th	26	2:35 1.5	9:32 6.5	14:12 5.1	20:16 9.0		S	26	3:58 0.4	10:32 8.7	16:17 3.1	22:13 9.8									
	Tu	27	2:14 2.3	8:38 6.0	13:25 4.4	19:52 9.1		F	27	3:36 0.7	10:28 7.2	15:30 4.7	21:35 9.5		M	27	4:45 -0.1	11:10 9.7	17:05 1.9	23:08 10.6									
	W	28	3:13 1.4	9:53 6.5	14:37 4.8	20:48 9.4		S	28	4:27 -0.2	11:10 8.1	16:28 3.9	22:23 10.2	☾	Tu	28	5:27 -0.3	11:45 10.5	17:50 0.7	23:58 10.9									
	Th	29	4:05 0.5	10:50 7.0	15:42 4.7	21:45 10.0		S	29	5:13 -0.8	11:48 8.9	17:19 3.0	23:17 10.8	☾	W	29	6:10 -0.4	12:23 11.1	18:33 -0.3										
	F	30	4:53 -0.4	11:37 7.7	16:40 4.3	22:37 10.4	○	M	30	5:55 -1.3	12:24 9.7	18:05 2.1			Th	30	0:45 11.2	6:52 -0.3	13:02 11.3	19:14 -0.8									
S	S	31	5:36 -1.2	12:17 8.3	17:30 3.8	23:28 10.9	P	Tu	31	0:07 11.3	6:35 -1.4	12:58 10.4	18:50 1.2																

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N	F	1	1:28 11.1	7:31 0.3	13:38 11.4	19:57 -1.1				M	1	3:00 9.1	8:30 3.0	14:29 10.8	21:20 -1.3				W	1	3:46 8.7	9:08 4.0	14:56 9.9	21:51 -0.6					
	S	2	2:16 10.5	8:11 1.2	14:17 11.2	20:45 -1.0				Tu	2	3:58 8.6	9:22 3.8	15:16 10.9	22:16 -0.4				Th	2	4:41 8.4	10:08 4.4	15:50 8.9	22:44 0.3					
	S	3	3:08 9.6	8:54 2.2	14:59 10.7	21:38 -0.6				W	3	5:04 8.2	10:25 4.5	16:12 9.0	23:19 0.4				F	3	5:39 8.5	11:22 4.5	16:54 7.9	23:39 1.1					
	M	4	4:06 8.7	9:42 3.2	15:45 10.1	22:38 0.0				Th	4	6:22 7.9	11:49 4.9	17:24 8.1				S	4	6:38 8.5	12:46 4.3	18:11 7.1							
	Tu	5	5:18 7.9	10:42 4.2	16:40 9.2	23:48 0.6				F	5	0:28 1.1	7:38 8.2	13:28 4.8	18:54 7.5				S	5	0:38 2.1	7:35 8.7	14:05 3.8	19:36 6.8					
	W	6	6:50 7.5	12:01 4.9	17:50 8.5					S	6	1:41 1.6	8:41 8.5	14:50 4.0	20:21 7.5				M	6	1:36 2.7	8:25 8.9	15:06 3.0	20:52 6.8					
	Th	7	1:08 1.0	8:23 7.5	13:47 5.1	19:18 8.1				S	7	2:44 2.0	9:27 8.8	15:47 3.1	21:31 7.7				Tu	7	2:38 3.1	9:08 9.0	15:53 2.4	21:52 7.2					
	F	8	2:27 1.1	9:30 8.2	15:13 4.4	20:43 8.1				M	8	3:34 2.2	10:04 9.3	16:28 2.3	22:25 8.0				W	8	3:25 3.4	9:42 9.3	16:28 1.6	22:42 7.4					
	S	9	3:30 1.0	10:18 8.7	16:13 3.5	21:51 8.5				Tu	9	4:19 2.2	10:37 9.5	17:00 1.6	23:06 8.4				Th	9	4:06 3.6	10:13 9.6	17:03 0.7	23:25 7.7					
	S	10	4:18 1.0	10:53 9.2	16:55 2.8	22:44 8.8				W	10	4:54 2.4	11:02 9.8	17:31 0.9	23:44 8.6				F	10	4:42 3.7	10:43 10.0	17:36 0.0						
M	11	4:58 1.2	11:20 9.5	17:30 1.9	23:27 9.1				Th	11	5:23 2.6	11:28 10.1	18:00 0.3					S	11	0:05 7.8	5:16 3.9	11:17 10.4	18:10 -0.7						
Tu	12	5:33 1.3	11:47 9.7	18:00 1.3					F	12	0:19 8.5	5:51 2.9	11:54 10.3	18:29 -0.3				S	12	0:43 8.0	5:52 3.9	11:50 10.5	18:42 -1.2						
W	13	0:04 9.3	6:05 1.5	12:15 10.0	18:27 0.9				S	13	0:53 8.6	6:19 3.1	12:20 10.4	19:00 -0.6				M	13	1:20 8.2	6:28 3.9	12:24 10.7	19:17 -1.4						
Th	14	0:36 9.4	6:29 1.7	12:38 10.1	18:53 0.5				S	14	1:28 8.5	6:49 3.3	12:48 10.4	19:33 -0.7				Tu	14	1:56 8.3	7:07 3.9	13:01 10.7	19:53 -1.3						
F	15	1:08 9.2	6:55 2.1	13:00 10.1	19:21 0.3				M	15	2:03 8.3	7:20 3.5	13:18 10.4	20:09 -0.7				W	15	2:35 8.3	7:46 3.9	13:42 10.4	20:35 -1.1						
S	16	1:40 8.9	7:19 2.4	13:23 10.1	19:52 0.2				Tu	16	2:42 8.1	7:56 3.9	13:51 10.1	20:48 -0.5				Th	16	3:17 8.4	8:36 4.0	14:26 10.0	21:19 -0.7						
S	17	2:11 8.5	7:46 2.9	13:48 10.0	20:27 0.2				W	17	3:28 7.9	8:35 4.2	14:30 9.7	21:33 -0.1				F	17	4:02 8.4	9:30 4.0	15:17 9.4	22:06 0.0						
M	18	2:49 8.1	8:16 3.5	14:16 9.7	21:04 0.4				Th	18	4:19 7.8	9:31 4.6	15:18 9.2	22:26 0.4				S	18	4:50 8.4	10:34 4.0	16:16 8.6	22:56 0.8						
Tu	19	3:33 7.6	8:50 3.9	14:51 9.5	21:51 0.7				F	19	5:20 7.8	10:41 4.8	16:21 8.5	23:25 1.0				S	19	5:42 8.8	11:47 3.7	17:29 7.9	23:53 1.6						
W	20	4:28 7.2	9:31 4.6	15:35 9.0	22:47 1.1				S	20	6:24 7.9	12:08 4.7	17:44 7.9					M	20	6:36 9.1	12:56 3.0	18:55 7.5							
Th	21	5:40 6.9	10:40 5.0	16:34 8.5	23:55 1.4				S	21	0:32 1.5	7:25 8.4	13:35 8.9	19:18 7.7				Tu	21	1:01 2.4	7:30 9.2	14:07 2.2	20:18 7.6						
F	22	7:00 7.1	12:14 5.1	18:00 8.0					M	22	1:40 1.9	8:20 9.0	14:40 2.7	20:40 8.0				W	22	2:06 2.9	8:25 9.7	15:13 1.0	21:35 7.8						
S	23	1:11 1.6	8:13 7.7	13:55 4.6	19:37 8.0				Tu	23	2:48 2.0	9:08 9.5	15:34 1.4	21:46 8.8				Th	23	3:07 3.2	9:17 10.3	16:11 -0.1	22:40 8.3						
S	24	2:23 1.5	9:07 8.4	15:07 3.5	20:58 8.5				W	24	3:41 2.1	9:53 10.4	16:25 0.1	22:44 9.3				F	24	4:02 3.4	10:08 10.8	17:02 -1.2	23:35 8.5						
M	25	3:21 1.3	9:50 9.4	16:00 2.1	22:02 9.2				Th	25	4:30 2.2	10:35 11.0	17:13 -1.1	23:38 9.6				S	25	4:54 3.5	10:54 11.3	17:50 -1.9							
Tu	26	4:12 1.1	10:30 10.0	16:43 1.9	22:56 10.0				F	26	5:14 2.3	11:18 11.6	18:00 -2.0					S	26	0:26 8.7	5:44 3.5	11:41 11.5	18:55 -2.4						
W	27	5:00 0.9	11:12 10.8	17:27 -0.3	23:44 10.5				S	27	0:28 9.6	5:58 2.5	12:00 11.9	18:44 -2.5				M	27	1:13 8.9	6:31 3.5	12:26 11.5	19:19 -2.4						
Th	28	5:42 0.8	11:50 11.4	18:11 -1.3					S	28	1:16 9.5	6:42 2.8	12:42 11.8	19:29 -2.5				Tu	28	1:58 9.0	7:17 3.5	13:11 11.2	20:01 -2.1						
F	29	0:32 10.6	6:23 1.1	12:28 11.8	18:55 -1.9				M	29	2:06 9.2	7:26 3.1	13:25 11.5	20:15 -2.2				W	29	2:42 9.1	8:03 3.5	13:56 10.8	20:43 -1.5						
S	30	1:20 10.4	7:04 1.6	13:06 11.8	19:41 -2.1				Tu	30	2:55 8.9	8:13 3.6	14:09 10.8	21:03 -1.6				Th	30	3:24 9.0	8:52 3.6	14:41 9.8	21:24 -0.5						
S	31	2:08 9.9	7:45 2.3	13:47 11.4	20:20 -1.9													F	31	4:05 9.1	9:46 3.7	15:29 8.9	22:06 0.5						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region and which is 5.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Sitka Standard, 135th Meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 gives the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	2:08	8:42	15:34	21:54					M	1	3:47	10:07	17:20	23:57	N	M	1	2:04	8:35	16:06	22:52									
			2.4	8.6	1.2	6.6							3.8	8.8	—0.1	6.5				4.3	8.0	0.9	6.2									
	S	2	3:10	9:37	16:36	23:00					N	Tu	2	4:51	11:01	18:06		Tu	2	3:47	9:53	17:04	23:44									
			2.9	9.1	0.3	6.7							3.8	9.2	—0.5				4.3	8.0	0.5	6.7										
	S	3	4:06	10:27	17:28	23:57					W	3	0:41	5:44	11:48	18:44	W	3	4:57	10:53	17:48											
O			3.1	9.5	—0.5	6.9							7.0	8.5	9.8	—0.8			3.8	8.4	0.1											
	M	4	4:58	11:11	18:12					O	Th	4	1:18	6:27	12:28	19:17	Th	4	0:23	5:47	11:41	18:24										
			3.2	9.8	—1.0								7.3	8.3	9.4	—0.8			7.2	8.3	8.7	0.0										
	Tu	5	0:45	5:45	11:55	18:53					F	5	1:52	7:04	13:05	19:47	F	5	0:55	6:24	12:21	18:58										
			7.1	8.2	10.0	—1.3							7.6	8.0	9.4	—0.7			7.7	2.8	8.8	0.0										
A	W	6	1:29	6:27	12:34	19:31					S	6	2:21	7:38	13:41	20:16	O	S	6	1:21	6:56	12:57	19:18									
			7.2	8.2	10.0	—1.4							7.8	2.8	9.2	—0.5	A		8.0	2.4	8.9	0.1										
	Th	7	2:06	7:07	13:12	20:06					A	S	7	2:47	8:11	14:15	20:40	S	7	1:44	7:25	13:30	19:42									
			7.3	8.2	9.8	—1.2							7.9	2.5	8.9	—0.2			8.2	1.9	8.9	0.2										
	F	8	2:45	7:46	13:51	20:38					M	8	3:09	8:46	14:48	21:06	E	M	8	2:04	7:53	14:00	20:10									
E			7.3	8.2	9.5	—0.9							8.0	2.3	8.4	0.4			8.4	1.5	8.6	0.5										
	S	9	3:19	8:24	14:28	21:10					E	Tu	9	3:31	9:22	15:21	21:37	Tu	9	2:24	8:23	14:31	20:35									
			7.4	8.2	9.0	—0.4							8.1	2.2	7.9	0.9			8.6	1.2	8.8	0.9										
	S	10	3:49	9:06	15:04	21:41					W	10	3:58	10:01	16:11	22:09	W	10	2:47	8:55	15:04	21:00										
			7.4	8.2	8.3	0.2							8.2	2.1	7.4	1.5			8.6	1.0	8.1	1.2										
P	M	11	4:18	9:49	15:42	22:11					Th	11	4:26	10:46	16:44	22:37	Th	11	3:13	9:29	15:39	21:29										
			7.4	8.3	7.7	0.8							8.1	2.1	6.8	2.1			8.5	0.8	7.5	1.8										
	Tu	12	4:51	10:37	16:24	22:50					F	12	5:01	11:34	17:41	23:14	F	12	3:42	10:09	16:19	22:00										
			7.4	8.4	6.9	1.4							8.0	2.0	6.0	2.7			8.6	0.9	6.9	2.4										
	W	13	5:28	11:32	17:16	23:30					C	S	13	5:46	12:38	18:56		S	13	4:17	10:58	17:12	22:40									
C			7.5	8.3	6.3	2.1							8.0	2.0	5.4				8.4	1.0	6.1	8.1										
	Th	14	6:08	12:35	18:26						S	14	0:08	6:45	13:55	20:51	C	S	14	5:00	12:00	18:26	23:31									
			7.5	8.2	5.8								8.4	8.0	1.7	5.2			8.3	1.3	5.5	3.7										
	F	15	0:09	6:54	13:35	19:52					M	15	1:13	7:55	15:18	22:24	M	15	6:00	13:16	20:21											
			2.6	7.6	2.8	5.4							8.8	8.2	1.1	5.7			8.0	1.3	5.4											
D	S	16	1:01	7:46	14:48	21:26					S	Tu	16	2:41	9:08	16:25	23:22	S	Tu	16	0:46	7:18	14:48	22:00								
			3.1	7.9	2.0	5.4							4.1	8.6	0.2	6.4			4.1	7.9	1.0	5.9										
	S	17	2:04	8:42	15:53	22:40					W	17	4:01	10:14	17:20		W	17	2:29	8:47	15:58	22:55										
			3.6	8.4	1.1	5.8							8.9	9.1	—0.6				4.4	8.1	0.5	6.8										
	M	18	3:11	9:40	16:50	23:36					Th	18	0:06	5:06	11:14	18:06	Th	18	3:59	10:08	16:59	23:36										
S			3.7	8.9	0.1	6.4							7.2	3.3	9.8	—1.3			3.7	8.7	—0.2	7.6										
	Tu	19	4:16	10:33	17:38					F	19	0:44	6:00	12:07	18:50	F	19	5:01	11:06	17:42												
			3.7	9.5	—0.9								7.8	2.5	10.4	—1.7			2.7	9.3	—0.6											
	W	20	0:23	5:13	11:24	18:23					P	S	20	1:20	6:48	12:57	19:29	P	S	20	0:12	5:52	12:01	18:23								
			6.9	3.4	10.1	—1.7							8.4	2.3	10.7	—1.8			8.4	1.6	9.9	—0.9										
P	Th	21	1:05	6:05	12:13	19:05					S	21	1:56	7:35	13:46	20:09	S	21	0:47	6:38	12:50	19:04										
			7.4	3.0	10.5	—2.1							9.0	1.0	10.6	—1.5			9.2	0.6	10.2	—0.9										
	F	22	1:45	6:54	13:02	19:47					E	M	22	2:31	8:22	14:33	20:47	E	M	22	1:21	7:22	13:37	19:44								
			7.9	2.6	10.7	—2.3							9.4	0.4	10.2	—1.1			9.8	—0.3	10.2	—0.7										
	S	23	2:24	7:42	13:49	20:30					Tu	23	3:08	9:09	15:21	21:30	Tu	23	1:56	8:06	14:23	20:22										
D			8.2	2.1	10.6	—2.1							9.6	0.2	9.5	—0.2			10.0	—0.8	10.0	—0.2										
	S	24	3:02	8:31	14:38	21:12					W	24	3:45	10:00	16:11	22:10	W	24	2:34	8:47	15:08	21:00										
			8.5	1.8	10.2	—1.6							9.7	0.3	8.7	0.7			10.1	—1.0	9.2	0.6										
	M	25	3:40	9:22	15:28	21:54					Th	25	4:26	10:48	17:07	22:51	Th	25	3:11	9:34	15:58	21:37										
			8.7	1.6	9.5	—0.8							9.3	0.0	7.5	1.7			10.0	—0.8	8.3	1.4										
E	Tu	26	4:22	10:18	16:23	22:40					D	F	26	5:12	11:51	18:17	23:38	D	F	26	3:51	10:26	16:54	22:17								
			8.8	1.6	8.6	0.2							9.0	1.0	6.5	2.8			9.7	—0.2	7.2	2.3										
	W	27	5:08	11:20	17:26	23:28					S	27	6:05	13:13	19:52		S	27	4:35	11:25	18:04	23:06										
			8.8	1.7	7.7	1.4							8.5	1.3	5.8				9.1	0.4	6.3	3.3										
	Th	28	5:57	12:23	18:40						S	28	0:36	7:13	14:45	21:35	D	S	28	5:27	12:37	19:39										
P			8.6	1.7	6.7								3.6	8.2	1.3	5.7			8.4	1.0	5.8											
	F	29	0:18	6:53	13:44	20:10													0:12	6:35	14:08	21:16										
			2.3	8.5	1.6	6.1													4.3	7.7	1.4	6.0										
	S	30	1:18	7:56	15:12	21:44													2:00	8:16	15:32	22:28										
			3.1	8.5	1.2	5.9													4.5	7.2	1.3	6.5										
N	S	31	2:30	9:06	16:24	23:00													3:52	9:35	16:30	23:14										
			3.7	8.6	0.6	6.2													4.2	7.3	1.1	7.1										

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard 150th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Day of—		Time and Height of High and Low Water.								Day of—		Time and Height of High and Low Water.								Day of—		Time and Height of High and Low Water.							
W.	Mo.									W.	Mo.									W.	Mo.								
Th	1	4:55 3.6	10:40 7.6	17:14 1.0	23:48 7.6					S	1	5:06 2.4	11:06 7.2	17:00 2.0	23:21 8.0					Tu	1	5:28 0.7	11:54 6.9	17:06 2.8	23:20 9.1				
F	2	5:36 2.8	11:28 7.9	17:48 0.9					S	2	5:36 1.7	11:46 7.6	17:31 2.0	23:44 8.4					W	2	6:02 -0.1	12:34 7.1	17:42 2.8	23:53 9.5					
S	3	0:13 8.0	6:07 2.2	12:08 8.2	18:16 0.9					M	3	6:00 1.1	12:19 7.8	17:58 2.0					Th	3	6:36 -0.8	13:14 7.2	18:17 2.8						
S	4	0:36 8.3	6:35 1.5	12:42 8.3	18:44 1.0					Tu	4	0:09 8.8	6:28 0.4	12:53 7.9	18:24 2.0					F	4	0:27 9.8	7:14 -1.3	13:55 7.3	18:55 2.9				
M	5	0:57 8.5	7:01 1.0	13:14 8.5	19:08 1.1					W	5	0:34 9.2	6:58 -0.3	13:27 7.8	18:52 2.1					S	5	1:02 10.0	7:54 -1.6	14:33 7.3	19:36 3.1				
Tu	6	1:20 8.7	7:28 0.5	13:43 8.4	19:32 1.3					Th	6	1:00 9.4	7:31 -0.8	14:00 7.7	19:22 2.3					S	6	1:41 10.0	8:37 -1.6	15:16 7.2	20:20 3.2				
W	7	1:41 8.9	7:54 0.1	14:14 8.2	19:57 1.5					F	7	1:28 9.6	8:07 -1.0	14:37 7.4	19:55 2.6					M	7	2:24 9.8	9:22 -1.3	16:03 7.1	21:11 3.4				
Th	8	2:05 9.1	8:27 -0.2	14:47 7.8	20:25 1.9					S	8	2:00 9.6	8:48 -1.0	15:18 7.1	20:32 3.0					Tu	8	3:20 9.2	10:11 -0.8	16:55 7.1	22:10 3.5				
F	9	2:32 9.1	9:08 -0.2	15:25 7.3	20:56 2.4					S	9	2:37 9.4	9:31 -0.8	16:06 6.8	21:14 3.4					W	9	4:08 8.5	11:01 -0.2	17:55 7.3	23:21 3.5				
S	10	3:03 9.1	9:46 0.0	16:09 6.8	21:31 3.0					M	10	3:19 9.0	10:21 -0.4	17:05 6.5	22:09 3.8					Th	10	5:16 7.8	11:59 0.6	18:51 7.6					
S	11	3:41 8.8	10:35 0.3	17:04 6.2	22:14 3.5					Tu	11	4:11 8.5	11:18 0.2	18:15 6.4	23:20 4.1					F	11	0:44 3.2	6:38 7.2	12:59 1.3	19:50 8.0				
M	12	4:27 8.4	11:35 0.7	18:19 5.8	23:15 4.2					W	12	5:19 7.8	12:25 0.7	19:30 6.7					S	12	2:08 2.5	8:07 6.8	14:06 1.8	20:42 8.4					
Tu	13	5:30 7.9	12:48 0.9	19:58 5.9					Th	13	0:51 4.0	6:45 7.3	13:38 1.1	20:35 7.3					S	13	3:12 1.7	9:27 7.1	15:06 2.1	21:34 9.0					
W	14	0:46 4.4	6:58 7.6	14:11 1.0	21:18 6.6					F	14	2:27 3.3	8:25 7.2	14:44 1.3	21:28 8.0					M	14	4:14 0.6	10:35 7.2	15:38 2.3	22:20 9.7				
Th	15	2:31 4.0	8:34 7.7	15:28 0.8	22:11 7.4					S	15	3:39 2.2	9:44 7.6	15:47 1.4	22:14 8.6					Tu	15	5:08 -0.4	11:33 7.4	16:46 2.5	23:04 10.2				
F	16	3:52 3.0	9:54 8.1	16:22 0.5	22:54 8.2					S	16	4:31 1.0	10:48 8.2	16:38 1.4	22:54 9.4					W	16	5:57 -1.2	12:26 7.5	17:33 2.7	23:46 10.5				
S	17	4:51 1.8	11:00 8.7	17:10 0.3	23:31 9.1					M	17	5:19 -0.2	11:42 8.4	17:22 1.5	23:38 10.1					Th	17	6:41 -1.7	13:14 7.4	18:17 2.8					
S	18	5:39 0.5	11:51 9.2	17:57 0.3					Tu	18	6:07 -1.1	12:31 8.5	18:02 1.6					F	18	0:27 10.6	7:24 -1.9	14:00 7.4	19:00 2.9						
M	19	0:09 9.6	6:21 -0.5	12:40 9.6	18:36 0.2					W	19	0:12 10.6	6:50 -1.7	13:19 8.4	18:41 1.9					S	19	1:09 10.5	8:07 -1.7	14:45 7.4	19:43 8.1				
Tu	20	0:47 10.2	7:08 -1.3	13:26 9.5	19:13 0.5					Th	20	0:51 10.8	7:34 -2.0	14:04 8.1	19:21 2.2					S	20	1:52 10.1	8:48 -1.4	15:29 7.2	20:28 3.2				
W	21	1:23 10.6	7:47 -1.7	14:13 9.1	19:51 1.0					F	21	1:31 10.8	8:18 -1.9	14:53 7.8	20:01 2.5					M	21	2:34 9.5	9:28 -0.8	16:16 7.2	21:17 3.4				
Th	22	2:00 10.7	8:31 -1.7	15:00 8.5	20:28 1.6					S	22	2:11 10.3	9:04 -1.5	15:42 7.4	20:45 3.0					Tu	22	3:18 8.7	10:08 -0.2	16:56 7.2	22:10 3.7				
F	23	2:38 10.3	9:17 -1.3	15:49 7.7	21:08 2.3					S	23	2:53 9.7	9:48 -0.9	16:35 7.0	21:32 3.4					W	23	4:04 7.8	10:19 0.5	17:39 7.2	23:11 3.8				
S	24	3:19 9.8	10:07 -0.7	16:45 6.9	21:52 3.0					M	24	3:38 8.8	10:38 -0.2	17:31 6.7	22:28 3.9					Th	24	4:57 7.0	11:29 1.3	18:25 7.3					
S	25	4:04 9.0	11:00 0.1	17:51 6.4	22:44 3.7					Tu	25	4:29 8.0	11:28 0.6	18:30 6.7	23:41 4.2					F	25	0:20 3.8	5:59 6.3	12:16 1.9	19:12 7.4				
M	26	4:55 8.2	12:03 0.8	19:13 6.3	23:57 4.3					W	26	5:32 7.0	12:24 1.3	19:36 6.9					S	26	1:34 3.5	7:11 5.7	13:13 2.5	19:57 7.5					
Tu	27	6:05 7.3	13:20 1.4	20:37 6.5					Th	27	1:18 4.2	6:52 6.4	13:27 2.0	20:30 7.1					S	27	2:34 3.1	8:30 5.6	13:52 2.9	20:37 7.7					
W	28	1:53 4.5	7:35 6.7	14:36 1.7	21:38 6.9					F	28	2:46 3.8	8:19 6.1	14:20 2.4	21:16 7.5					M	28	3:24 2.4	9:41 5.7	14:41 3.2	21:16 8.2				
Th	29	3:34 4.1	9:04 6.6	15:36 1.8	22:20 7.8					S	29	3:44 3.0	9:33 6.1	15:13 2.6	21:53 7.8					Tu	29	4:13 1.5	10:41 5.9	15:31 3.3	21:57 8.6				
F	30	4:28 3.2	10:13 6.8	16:22 1.9	22:53 7.8					S	30	4:21 2.4	10:28 6.4	15:57 2.7	22:21 8.1					W	30	4:58 0.6	11:33 6.3	16:20 3.4	22:40 9.1				
M	31									M	31	4:56 1.6	11:13 6.7	16:32 2.8	22:49 8.6														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian W.; 0 is midnight, 12 is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.					W.	Mo.					W.	Mo.						
ZC	Th	1	5:39 —0.3	12:21 6.7	17:06 3.4	23:20 9.7	○	S	1	6:45 —1.6	13:25 7.6	18:31 2.7	E	W	1	1:22 10.4	7:42 —1.2	14:04 9.3	19:58 0.3	
	F	2	6:19 —1.1	13:03 6.9	17:53 3.3		M	2	0:40 10.4	7:27 —1.8	14:01 8.0	19:20 2.2	Th	2	2:10 10.1	8:23 —0.8	14:39 9.6	20:45 0.0		
	S	3	0:03 10.1	7:00 —1.6	13:45 7.3	18:39 3.2	P	Tu	3	1:28 10.4	8:08 —1.8	14:38 8.4	20:09 1.8	F	3	2:58 9.6	9:05 —0.1	15:17 9.6	21:31 —0.1	
	S	4	0:48 10.2	7:42 —1.9	14:25 7.5	19:26 3.0	W	4	2:37 10.2	8:48 —1.4	15:14 8.6	21:00 1.5	S	4	3:45 8.8	9:43 0.7	15:58 9.4	22:21 0.2		
	M	5	1:32 10.3	8:24 —1.9	15:04 7.6	20:14 2.8	E	Th	5	3:06 9.6	9:29 —0.7	15:54 8.8	21:52 1.3	S	5	4:41 7.7	10:27 1.7	16:43 9.1	23:22 0.6	
P	Tu	6	2:20 9.9	9:09 —1.6	15:46 7.8	21:08 2.7	F	6	3:59 8.8	10:15 0.2	16:38 9.0	22:50 1.3	●	M	6	5:50 6.7	11:14 2.6	17:35 8.8		
	W	7	3:11 9.4	9:56 —1.0	16:30 7.9	22:06 2.6	S	7	4:59 8.0	11:00 1.2	17:24 8.8	23:48 1.4	Tu	7	0:38 1.0	7:20 5.9	12:11 3.6	18:41 8.3		
	Th	8	4:06 8.7	10:40 —0.2	17:18 8.1	23:11 2.5	○	S	8	6:06 7.0	11:48 2.1	18:17 8.7		N	W	8	2:06 1.0	9:00 5.9	13:36 4.2	20:04 8.0
	F	9	5:10 7.9	11:31 0.7	18:09 8.3		M	9	1:07 1.4	7:30 6.3	12:42 2.9	19:19 8.7	Th	9	3:31 0.8	10:20 6.3	15:22 4.2	21:26 8.2		
	S	10	0:24 2.3	6:24 7.1	12:27 1.6	19:03 8.4	Tu	10	2:30 1.1	9:04 6.0	13:51 3.5	20:27 8.7	F	10	4:35 0.4	11:15 6.8	16:35 3.7	22:31 8.4		
E	S	11	1:33 1.9	7:48 6.7	13:24 2.3	20:00 8.7	W	11	3:48 0.6	10:25 6.1	15:12 3.8	21:35 8.9	S	11	5:24 0.1	11:58 7.3	17:28 3.1	23:23 8.7		
	M	12	2:52 1.3	9:12 6.4	14:25 2.8	20:56 9.1	N	Th	12	4:51 0.0	11:27 6.4	16:23 3.8	22:35 9.1	S	12	6:03 0.0	12:31 7.8	18:09 2.5		
	Tu	13	4:01 0.5	10:26 6.1	15:27 3.1	21:52 9.5	F	13	5:41 —0.4	12:16 6.9	17:21 3.5	23:28 9.4	M	13	0:06 8.9	6:35 0.0	13:09 8.2	18:43 2.1		
	W	14	5:06 —0.3	11:29 6.7	16:26 3.2	22:46 9.8	S	14	6:24 —0.7	12:56 7.3	18:09 3.1		●	Tu	14	0:43 8.9	7:01 0.2	13:25 8.4	19:13 1.6	
	Th	15	5:51 —0.9	12:23 6.9	17:19 3.2	23:34 10.0	●	S	15	0:12 9.5	6:59 —0.8	13:31 7.6	18:51 2.8	E	W	15	1:19 8.8	7:29 0.4	13:45 8.6	19:41 1.2
●	F	16	6:34 —1.3	13:09 7.1	18:08 3.2		M	16	0:53 9.5	7:31 —0.6	14:03 7.9	19:28 2.5	Th	16	1:50 8.5	7:55 0.7	14:08 8.7	20:10 1.0		
	S	17	0:16 10.1	7:16 —1.4	13:51 7.3	18:52 3.1	Tu	17	1:30 9.3	8:01 —0.4	14:31 8.0	20:08 2.2	F	17	2:22 8.4	8:19 1.1	14:31 8.5	20:41 0.9		
	S	18	0:58 9.9	7:52 —1.3	14:30 7.4	19:35 3.1	W	18	2:07 8.9	8:28 0.0	14:54 8.1	20:37 2.0	S	18	2:52 7.9	8:46 1.5	14:54 8.5	21:12 0.8		
	M	19	1:40 9.6	8:29 —1.0	15:07 7.6	20:18 3.0	A	Th	19	2:40 8.4	8:55 0.5	15:17 8.2	21:12 2.0	S	19	3:24 7.3	9:10 2.0	15:29 8.5	21:49 0.9	
	Tu	20	2:20 9.2	9:00 —0.5	15:39 7.6	21:00 2.9	F	20	3:15 7.8	9:26 1.1	15:43 8.2	21:50 2.0	M	20	4:02 6.7	9:39 2.6	15:52 8.3	22:35 1.1		
A	W	21	3:01 8.6	9:33 0.0	16:07 7.6	21:44 3.0	S	21	3:53 7.3	9:52 1.7	16:09 8.0	22:29 2.0	Tu	21	4:50 6.0	10:14 3.2	16:33 8.1	23:33 1.3		
	Th	22	3:40 7.8	10:04 0.7	16:40 7.7	22:30 3.0	●	S	22	4:33 6.7	10:21 2.3	16:43 8.0	23:14 2.0	W	22	6:00 5.3	11:01 3.8	17:27 7.8		
	F	23	4:20 7.1	10:41 1.4	17:16 7.7	23:21 3.1	●	M	23	5:22 5.9	10:56 2.8	17:25 7.8		Th	23	0:46 1.5	7:47 5.2	12:17 4.4	18:46 7.6	
	S	24	5:11 6.5	11:15 2.0	17:52 7.6		Tu	24	0:14 2.1	6:31 5.4	11:41 3.4	18:19 7.8	F	24	2:11 1.3	9:29 5.8	14:05 4.5	20:16 7.7		
	S	25	0:18 3.0	6:11 5.9	11:51 2.6	18:32 7.7	W	25	1:28 1.9	8:24 5.1	12:48 3.9	19:25 7.9	S	25	3:29 0.8	10:27 6.7	15:36 3.8	21:38 8.2		
D	M	26	1:13 2.7	7:28 5.4	12:35 3.1	19:20 7.8	S	Th	26	2:49 1.4	10:02 5.5	14:13 4.3	20:39 8.2	S	26	4:31 0.2	11:08 7.6	16:39 2.8	22:43 8.9	
	Tu	27	2:24 2.2	9:00 5.3	13:33 3.6	20:14 8.1	F	27	4:00 0.7	11:00 6.2	15:36 4.1	21:48 8.7	M	27	5:14 —0.2	11:43 8.4	17:30 1.6	23:38 9.5		
	W	28	3:30 1.5	10:19 5.5	14:41 3.8	21:13 8.5	S	28	4:55 —0.1	11:43 6.9	16:42 3.4	22:50 9.3	Tu	28	5:56 —0.5	12:18 9.2	18:15 0.5			
	Th	29	4:26 0.6	11:15 5.9	15:49 3.9	22:07 9.0	●	S	29	5:43 —0.5	12:20 7.6	17:36 2.7	23:44 9.9	W	29	0:28 9.9	6:38 —0.6	12:53 9.8	18:58 —0.3	
	F	30	5:17 —0.3	12:05 6.6	16:49 3.7	23:00 9.6	○	M	30	6:24 —1.2	12:55 8.3	18:25 1.8		E	Th	30	1:11 10.0	7:07 —0.4	13:30 10.1	19:40 —1.0
S	31	6:02 —1.1	12:47 7.1	17:42 3.2	23:15 9.9	P	Tu	31	0:34 10.3	7:03 —1.4	13:30 8.9	19:11 0.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian W.: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	1:57 9.9	7:55 0.0	14:06 10.3	20:22 -1.3	C	M	1	3:26 7.8	8:43 2.2	14:54 10.2	21:42 -1.2	C	W	1	4:10 7.1	9:12 3.2	15:18 9.4	22:15 -0.6												
	S	2	2:44 9.2	8:32 0.7	14:44 10.3	21:09 -1.1		Tu	2	4:20 7.2	9:28 2.9	15:40 9.4	22:37 -0.4		Th	2	5:03 6.9	10:08 3.6	16:10 8.4	23:04 0.2												
	S	3	3:33 8.4	9:11 1.5	15:25 9.9	22:00 -0.7		W	3	5:24 6.7	10:21 3.6	16:33 8.5	23:40 0.4		F	3	6:01 6.8	11:16 4.0	17:10 7.3	23:30 0.0												
	M	4	3:33 7.4	9:53 2.3	16:09 9.4	22:59 0.0		Th	4	6:43 6.4	11:35 4.2	17:41 7.5	23:54 0.0		S	4	0:00 1.0	7:07 7.0	12:50 4.1	18:30 6.5												
	Tu	5	5:37 6.5	10:44 3.2	17:01 8.6	23:00 0.0		F	5	0:54 1.0	8:06 6.6	13:28 4.4	19:11 6.8		S	5	1:00 1.8	8:06 7.3	14:25 3.7	20:00 6.0												
	W	6	0:09 0.7	7:09 6.0	11:50 4.1	18:10 7.9		S	6	2:10 1.4	9:11 7.1	15:12 3.9	20:46 6.7		M	6	2:00 2.4	8:57 7.6	15:31 2.9	21:23 6.0												
	Th	7	1:38 1.0	8:47 6.2	13:35 4.5	19:40 7.4		S	7	3:16 1.6	10:00 7.5	16:11 3.0	21:59 6.9		Tu	7	3:00 2.7	9:40 7.8	16:13 2.3	22:20 6.2												
	F	8	3:01 1.1	9:59 6.7	15:28 4.1	21:17 7.3		M	8	4:05 1.9	10:35 8.0	16:53 2.1	22:54 7.2		W	8	3:47 2.8	10:12 8.1	16:51 1.6	23:09 6.5												
	S	9	4:06 1.0	10:48 7.3	16:35 3.3	22:20 7.7		Tu	9	4:46 2.0	11:08 8.2	17:25 1.6	23:35 7.5		Th	9	4:26 3.0	10:40 8.5	17:24 0.8	23:50 6.7												
	S	10	4:53 0.9	11:24 7.8	17:18 2.6	23:11 7.9		W	10	5:20 2.1	11:31 8.6	17:52 0.9	23:54 0.0		F	10	4:56 3.1	11:09 8.9	17:56 0.1	23:50 6.7												
	M	11	5:30 0.9	11:52 8.3	17:52 1.8	23:54 8.2		Th	11	0:10 7.6	5:46 2.2	11:56 8.9	18:18 9.2		S	11	0:29 6.9	5:30 8.1	11:40 9.4	18:27 -0.6												
	Tu	12	6:01 1.0	12:18 8.5	18:21 1.2	23:54 8.2		F	12	0:44 7.6	6:10 2.3	12:19 9.2	18:47 -0.2		S	12	1:05 7.0	6:05 3.0	12:13 9.7	19:00 -1.0												
W	13	0:32 8.3	6:29 1.2	12:41 8.6	18:49 0.8	S	13	1:15 7.5	6:36 2.3	12:43 9.5	19:16 -0.7	M	13	1:41 7.1	6:40 3.0	12:47 9.9	19:37 -1.4															
Th	14	1:01 8.4	6:53 1.2	13:04 8.9	19:14 0.4	S	14	1:49 7.4	7:04 2.5	13:10 9.6	19:51 -0.4	Tu	14	2:17 7.2	7:17 3.1	13:22 9.9	20:16 -1.5															
F	15	1:31 8.3	7:15 1.5	13:24 9.0	19:37 0.1	M	15	2:20 7.2	7:35 2.7	13:40 9.7	20:26 -0.9	W	15	2:54 7.1	7:59 3.2	14:02 9.7	20:57 -1.3															
S	16	2:00 7.9	7:38 1.8	13:46 9.1	20:09 -0.2	Tu	16	2:59 7.0	8:10 3.0	14:14 9.5	21:07 -0.7	Th	16	3:35 7.1	8:46 3.3	14:48 9.3	21:41 -0.8															
S	17	2:31 7.6	8:04 2.2	14:11 9.1	20:44 -0.2	W	17	3:41 6.7	8:50 3.4	14:53 9.1	21:53 -0.3	F	17	4:20 7.2	9:40 3.4	15:38 8.7	22:29 -0.2															
M	18	3:05 7.1	8:34 2.6	14:40 9.0	21:24 0.0	Th	18	4:34 6.5	9:40 3.8	15:40 8.5	22:46 0.2	S	18	5:11 7.3	10:45 3.4	16:40 8.0	23:20 0.5															
Tu	19	3:47 6.6	9:07 3.1	15:15 8.8	22:09 0.3	F	19	5:36 6.3	10:46 4.1	16:44 7.8	23:47 0.7	S	19	6:08 7.4	12:01 3.3	17:55 7.2	23:50 0.0															
W	20	4:38 6.2	9:47 3.6	15:57 8.3	23:06 0.7	S	20	6:49 6.5	12:13 4.1	18:08 7.2	23:54 0.0	M	20	0:20 1.2	7:08 7.8	13:26 2.8	19:25 6.6															
Th	21	5:48 5.8	10:44 4.2	16:56 7.8	23:54 0.0	S	21	0:55 1.2	7:57 7.1	13:50 3.5	19:47 6.9	Tu	21	1:25 1.9	8:08 8.1	14:35 2.0	20:55 6.7															
F	22	0:14 1.1	7:21 5.8	12:11 4.4	18:21 7.3	M	22	2:06 1.6	8:55 7.8	15:10 2.4	21:17 7.1	W	22	2:27 2.8	8:58 8.7	15:45 0.9	22:08 6.9															
S	23	1:35 1.2	8:44 6.3	14:01 4.1	20:03 7.3	Tu	23	3:15 1.7	9:41 8.4	16:03 1.3	22:23 7.7	Th	23	3:25 2.6	9:50 9.4	16:44 -0.2	23:12 7.1															
S	24	2:50 1.1	9:41 7.2	15:28 3.1	21:29 7.7	W	24	4:08 1.6	10:24 9.3	16:55 0.0	23:19 8.1	F	24	4:20 2.7	10:37 10.1	17:35 -1.1	23:30 0.0															
M	25	3:53 0.9	10:24 8.1	16:28 1.8	22:35 8.3	Th	25	4:54 1.7	11:06 10.1	17:43 -1.1	23:54 0.0	S	25	0:06 7.3	5:10 2.7	11:23 10.5	18:21 -1.8															
Tu	26	4:44 0.7	11:01 8.8	17:13 0.6	23:28 8.8	F	26	0:09 8.3	5:36 1.7	11:46 10.7	18:27 -1.8	S	26	0:55 7.5	5:57 2.7	12:07 10.8	19:45 -2.1															
W	27	5:29 0.6	11:41 9.7	17:55 -0.5	23:54 0.0	S	27	0:57 8.3	6:17 1.9	12:27 11.1	19:11 -2.3	M	27	1:41 7.5	6:42 2.7	12:51 10.8	19:47 -2.1															
Th	28	0:16 9.4	6:08 0.5	12:19 10.3	18:38 -1.4	S	28	1:43 8.1	6:58 2.1	13:08 11.1	19:56 -2.3	Tu	28	2:24 7.6	7:28 2.8	13:35 10.6	20:30 -1.8															
F	29	1:02 9.4	6:46 0.7	12:56 10.8	19:22 -1.9	M	29	2:30 7.7	7:40 2.4	13:50 10.8	20:42 -2.0	W	29	3:07 7.6	8:13 2.9	14:18 10.0	21:09 -1.3															
S	30	1:50 9.0	7:24 1.1	13:33 10.9	20:07 -2.0	Tu	30	3:19 7.5	8:24 2.8	14:32 10.2	21:26 -1.4	Th	30	3:50 7.5	9:00 3.0	15:04 9.2	21:48 -0.6															
S	31	2:36 8.5	8:02 1.6	14:12 10.8	20:53 -1.8							F	31	4:30 7.5	9:52 3.2	15:50 8.4	22:28 0.2															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region; and which is 4.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.				FEBRUARY.				MARCH.			
Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.	
	W. Mo.				W. Mo.				W. Mo.		
	F 1	8:14 -0.2	16:29 3.2		M 1	2:08 -0.2	17:02 4.0	N	M 1	0:16 -0.2	15:26 3.7
	S 2	8:20 0.0	17:00 3.6		N Tu 2	2:56 -0.5	17:50 4.1		Tu 2	1:21 -0.4	16:19 3.7
	S 3	7:50 -0.1	17:40 3.8		W 3	3:39 -0.7	18:35 4.1		W 3	2:05 -0.6	17:10 3.6
	M 4	3:20 -0.4	18:24 4.1		Th 4	4:20 -1.0	19:19 4.0		Th 4	2:58 -0.7	18:03 3.5
N	Tu 5	4:04 -0.8	19:05 4.3		F 5	4:55 -1.1	19:59 3.8		F 5	3:31 -0.6	18:51 3.2
O	W 6	4:45 -1.2	19:44 4.3		S 6	5:20 -1.0	20:37 3.5	O	S 6	4:03 -0.4	19:40 3.0
	Th 7	5:23 -1.3	20:21 4.2	A	S 7	5:40 -0.7	21:10 3.2	A	S 7	4:21 -0.2	20:26 2.7
	F 8	5:51 -1.4	20:56 4.0		M 8	6:50 -0.5	21:48 2.9	E	M 8	4:31 0.1	21:14 2.4
	S 9	6:21 -1.2	21:26 3.8	E	Tu 9	5:56 -0.3	22:29 2.4		Tu 9	4:33 0.3	11:54 1.8
	S 10	6:44 -1.0	21:56 3.4		W 10	5:56 0.0	14:00 1.9		W 10	4:33 0.5	11:31 2.0
A	M 11	6:54 -0.8	22:25 3.0		Th 11	5:55 0.2	13:41 2.2		Th 11	4:51 0.8	11:41 2.1
	Tu 12	7:00 -0.6	22:15 2.5		F 12	6:03 0.4	13:56 2.4		F 12	0:05 1.6	4:41 0.8
E	W 13	7:02 -0.3	21:52 2.2	C	S 13	5:58 0.4	14:14 2.7		S 13	1:45 1.1	4:44 0.8
C	Th 14	7:05 0.0	15:35 2.3		S 14	3:30 0.3	14:35 3.0	C	S 14	12:45 3.1	21:15 0.1
	F 15	7:10 0.1	15:49 2.6		M 15	1:55 0.1	15:14 3.4	S	M 15	13:22 3.4	22:26 -0.2
	S 16	6:56 0.2	16:06 2.8	S	Tu 16	1:50 -0.3	15:56 3.7		Tu 16	14:05 3.6	23:30 -0.4
	S 17	6:10 0.1	16:21 3.1		W 17	2:38 -0.6	16:42 3.9		W 17	15:00 3.6	
	M 18	3:25 -0.1	16:51 3.6		Th 18	3:03 -0.8	17:32 4.0		Th 18	0:30 -0.5	15:58 3.6
	Tu 19	3:41 -0.5	17:23 3.9	●	F 19	3:22 -0.9	18:29 4.0		F 19	1:21 -0.5	17:05 3.4
S	W 20	4:00 -1.0	18:04 4.2	P	S 20	3:40 -0.8	19:27 3.8		S 20	1:51 -0.4	18:11 3.2
●	Th 21	4:21 -1.2	18:47 4.4		S 21	4:11 -0.7	20:20 3.5	●	S 21	2:20 -0.2	9:25 1.3
	F 22	4:39 -1.3	19:35 4.4	E	M 22	4:29 -0.5	11:36 1.3	E	M 22	2:45 0.1	9:38 1.7
P	S 23	5:00 -1.3	20:21 4.3		Tu 23	4:47 -0.3	11:53 1.7		Tu 23	3:05 0.3	9:42 2.3
	S 24	5:25 -1.2	21:10 4.0		W 24	5:01 0.0	11:57 2.3		W 24	3:50 0.6	10:15 2.5
	M 25	5:43 -1.1	22:03 3.5		Th 25	5:34 0.2	12:30 2.6		Th 25	4:04 0.6	10:50 2.9
E	Tu 26	6:03 -0.8	23:00 2.9	D	F 26	0:41 1.6	5:49 0.3		F 26	0:20 1.4	4:14 0.6
	W 27	6:29 -0.5	13:54 2.1		S 27	1:48 1.0	5:54 0.3		S 27	1:16 0.9	4:20 0.6
D	Th 28	6:37 -0.2	14:09 2.7		S 28	3:25 0.5	5:46 0.3	D	S 28	3:03 0.7	4:40 0.6
	F 29	0:48 1.6	7:00 -0.1						M 29	13:41 3.6	22:55 -0.5
	S 30	7:05 0.0	15:33 3.5						Tu 30	14:30 3.5	23:53 -0.4
	S 31	6:54 -0.1	16:17 3.7						W 31	15:20 3.2	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 165th meridian W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.							
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.		
	W.	Mo.					W.	Mo.					W.	Mo.			
A	Th	1	0:40 —0.3	16:11 3.0		S	1	16:39 1.8	23:20 0.5		Tu	1	6:43 2.7	16:25 0.2			
	F	2	1:20 —0.2	17:13 2.7		S	2	7:45 2.1	15:04 1.3	18:25 1.4	23:54 0.7	W	2	6:49 3.0	16:25 —0.2		
	S	3	1:52 0.1	18:24 2.4		M	3	7:51 2.3	15:44 0.8	20:55 1.1	23:51 0.9	Th	3	7:08 3.3	16:48 —0.5		
E	S	4	2:15 0.3	19:19 2.0		Tu	4	8:01 2.4	16:05 0.5			F	4	7:31 3.7	17:18 —0.9		
	M	5	2:21 0.5	9:31 1.9	15:35 1.1	21:20 1.8	W	5	8:06 2.6	16:52 0.2		S	5	7:59 4.0	17:46 —1.1		
	Tu	6	3:07 0.8	9:40 2.0	16:03 0.9	22:18 1.7	Th	6	8:21 3.0	17:15 —0.2		S	6	8:36 4.2	18:06 —1.3		
C	W	7	3:03 1.0	9:41 2.2	16:28 0.6	23:14 1.6	F	7	8:44 3.3	17:50 —0.5		M	7	9:15 4.3	18:31 —1.5		
	Th	8	2:58 0.9	9:53 2.5	17:21 0.3		S	8	9:14 3.6	18:20 —0.8		Tu	8	9:56 4.2	19:00 —1.5		
	F	9	0:30 1.3	3:00 1.1	10:10 2.8	18:10 0.0	S	S	9	9:47 3.8	18:46 —1.1		W	9	10:39 3.9	19:27 —1.3	
S	S	10	10:37 3.1	18:59 —0.3			M	10	10:24 3.9	19:25 —1.2		Th	10	11:23 3.5	19:51 —1.0		
	S	11	11:10 3.4	19:44 —0.5			Tu	11	11:04 3.9	20:04 —1.2		F	11	12:00 2.9	20:09 —0.6		
	M	12	11:48 3.6	20:35 —0.7			W	12	11:49 3.7	20:41 —1.0		S	12	4:30 2.1	7:35 1.9	12:25 2.2	20:20 —0.3
C	Tu	13	12:30 3.6	21:24 —0.7			Th	13	12:31 3.3	21:08 —0.8		S	13	4:30 2.6	21:00 —0.1		
	W	14	13:20 3.5	22:13 —0.7			F	14	13:19 2.8	21:35 —0.4		M	14	5:09 3.1	21:05 0.0		
	Th	15	14:15 3.8	22:58 —0.5		E	S	15	14:15 2.2	21:59 0.0		Tu	15	5:44 3.4	15:08 0.0		
P	F	16	15:21 2.9	23:25 —0.2		P	S	16	5:48 2.3	12:29 1.3	16:39 1.5	22:42 0.2	W	16	6:20 3.9	15:53 —0.5	
	S	17	7:46 1.5	9:30 1.4	16:49 2.5		M	17	6:24 2.7	13:56 0.7	18:36 1.0	22:58 0.5	Th	17	7:00 4.3	16:39 —0.9	
	S	18	0:05 0.1	7:30 1.8	12:14 1.2	18:31 2.0	Tu	18	6:56 3.1	15:20 0.1	20:46 0.6	22:55 0.5	N	F	18	7:42 4.4	17:25 —1.4
E	M	19	0:49 0.5	7:40 2.2	14:06 0.8	20:11 1.8	W	19	7:31 3.5	16:21 —0.5			S	19	8:22 4.5	17:56 —1.5	
	Tu	20	1:25 0.7	8:15 2.6	15:11 0.4	21:29 1.6	Th	20	8:10 3.9	17:10 —0.9			S	20	9:02 4.5	18:25 —1.5	
	W	21	1:38 0.8	8:48 3.0	16:29 —0.1	22:44 1.2	F	21	8:50 4.2	17:59 —1.3			M	21	9:39 4.3	19:00 —1.3	
N	Th	22	1:54 0.8	9:26 3.4	17:34 —0.4		S	22	9:30 4.3	18:41 —1.3			Tu	22	10:11 4.0	19:18 —1.2	
	F	23	0:00 0.9	2:09 0.8	10:05 3.7	18:30 —0.7	S	23	10:07 4.3	19:14 —1.3			W	23	10:46 3.6	19:38 —1.0	
	S	24	10:46 3.9	19:25 —0.8			M	24	10:44 4.1	19:49 —1.2			Th	24	11:07 3.1	19:51 —0.7	
D	S	25	11:25 3.9	20:15 —0.9			Tu	25	11:19 3.8	20:21 —1.1			F	25	10:39 2.6	19:54 —0.3	
	M	26	12:05 3.8	21:00 —0.8			W	26	11:54 3.4	20:48 —0.8			S	26	5:23 2.1	19:54 —0.1	
	Tu	27	12:45 3.6	21:42 —0.6			Th	27	12:14 2.8	21:06 —0.5			S	27	4:56 2.3	20:04 0.1	
A	W	28	13:25 3.2	22:21 —0.4			F	28	11:40 2.4	21:11 —0.1			M	28	5:04 2.7	19:42 0.2	
	Th	29	14:10 2.8	22:50 —0.2			S	29	6:34 2.1	21:15 0.1			Tu	29	5:24 2.9	16:50 0.3	
	F	30	15:06 2.3	23:11 0.1			S	30	6:14 2.4	21:31 0.4			W	30	5:35 3.1	16:14 —0.1	
						M	31	6:30 2.6	21:00 0.5								

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The time used is Cosmopolitan Standard, 165th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.
	W.	Mo.			W.	Mo.			W.	Mo.	
G	Th	1	5:52 16:31 3.5 -0.6	○	S	1	6:27 16:29 4.1 -1.0	E	W	1	8:00 15:55 22:48 3.3 -0.2 1.3
	F	2	6:21 16:50 3.9 -1.0		M	2	7:15 16:42 4.2 -1.1		Th	2	2:00 9:00 16:12 23:05 1.1 2.9 0.0 1.9
	S	3	6:52 17:06 4.2 -1.2	P	Tu	3	8:01 17:02 4.1 -1.0		F	3	3:46 10:10 16:28 23:13 0.9 2.4 0.2 2.4
	S	4	7:31 17:21 4.3 -1.3		W	4	8:51 17:23 3.8 -0.8		S	4	5:22 11:26 17:02 23:50 0.8 1.9 0.4 2.6
	M	5	8:14 17:42 4.4 -1.4	E	Th	5	9:49 17:36 3.4 -0.6		S	5	6:16 12:30 17:14 0.7 1.6 0.4
P	Tu	6	8:59 18:02 4.4 -1.4		F	6	1:04 3:59 10:43 17:49 1.5 1.3 2.8 -0.3	C	M	6	0:30 7:54 13:35 17:20 3.1 0.4 0.9 0.4
	W	7	9:44 18:24 4.1 -1.2		S	7	1:06 5:54 11:39 18:11 2.1 1.3 2.1 -0.1		Tu	7	1:15 9:34 14:40 17:34 3.4 0.2 0.5 0.3
	Th	8	10:29 18:53 3.6 -1.0	C	S	8	1:31 8:00 12:41 18:34 2.6 1.1 1.6 0.0	N	W	8	2:00 11:10 3.7 -0.1
	F	9	11:13 19:00 3.0 -0.6		M	9	2:11 9:48 14:00 18:40 3.0 0.7 0.9 0.0		Th	9	2:50 12:36 3.8 -0.4
	S	10	2:56 6:40 11:46 19:17 2.0 1.7 2.2 -0.4		Tu	10	2:52 12:21 15:28 18:36 3.4 0.3 0.4 0.0		F	10	3:40 13:34 3.8 -0.5
N	S	11	3:10 19:40 2.6 -0.2		W	11	3:39 13:31 3.8 -0.1		S	11	4:38 14:15 3.6 -0.5
	M	12	3:46 19:50 3.2 -0.1	N	Th	12	4:20 14:28 4.0 -0.5		S	12	5:34 14:50 3.4 -0.5
	Tu	13	4:26 19:30 3.5 -0.2		F	13	5:18 15:11 4.1 -0.8		M	13	6:28 15:25 3.2 -0.3
	W	14	5:05 15:01 3.9 -0.3		S	14	6:07 15:55 4.1 -0.9	●	Tu	14	7:24 15:50 2.9 0.0
	Th	15	5:49 15:43 4.2 -0.8	●	S	15	6:55 16:33 4.0 -0.9	E	W	15	8:15 16:00 23:04 2.6 0.2 1.7
A	F	16	6:35 16:27 4.4 -1.2		M	16	7:41 17:00 3.8 -0.9	A	Th	16	2:45 9:11 16:10 23:12 1.3 2.3 0.4 1.9
	S	17	7:19 17:04 4.5 -1.3		Tu	17	8:25 17:18 3.5 -0.6		F	17	4:34 10:30 16:34 23:14 1.1 1.9 0.7 2.0
	S	18	8:00 17:35 4.4 -1.3		W	18	9:05 17:27 3.2 -0.3		S	18	5:35 11:30 16:35 23:22 0.9 1.7 0.8 2.2
	M	19	8:41 18:00 4.2 -1.2	A	Th	19	9:45 17:38 2.8 -0.1	E	S	19	5:48 12:20 16:30 23:35 0.7 1.4 0.9 2.5
	Tu	20	9:19 18:25 3.9 -1.0	E	F	20	1:16 3:05 10:40 17:42 1.6 1.5 2.3 0.1		M	20	6:50 13:20 16:15 23:54 0.5 1.1 0.9 2.8
E	W	21	9:54 18:35 3.5 -0.8		S	21	1:25 5:40 11:25 17:44 1.9 1.5 1.9 0.4		Tu	21	7:58 14:20 15:50 0.2 0.9 0.8
	Th	22	10:27 18:47 3.1 -0.5		S	22	1:16 7:05 11:30 17:52 2.2 1.3 1.5 0.5	D	W	22	0:20 8:58 3.1 0.0
	F	23	10:45 18:52 2.5 -0.2	D	M	23	1:35 17:40 2.3 0.5	S	Th	23	0:54 9:55 3.3 -0.2
	S	24	3:31 6:50 9:48 18:44 2.0 1.9 2.1 0.0		Tu	24	1:52 11:40 2.6 0.7		F	24	1:36 10:55 3.4 -0.3
	S	25	3:16 18:57 2.3 0.1		W	25	2:15 13:25 2.9 0.2		S	25	2:24 11:50 3.5 -0.4
S	M	26	3:27 18:40 2.6 0.2	S	Th	26	2:45 14:10 3.2 -0.1		S	26	3:22 12:30 3.4 -0.3
	Tu	27	3:47 18:12 2.8 0.2		F	27	3:28 14:20 3.5 -0.4		M	27	4:27 13:06 20:30 22:00 3.1 -0.2 1.2 1.1
	W	28	4:04 15:19 3.0 0.0		S	28	4:14 14:40 3.7 -0.5		Tu	28	5:40 13:35 20:40 2.9 0.1 1.5
	Th	29	4:29 15:31 3.4 -0.4		S	29	5:10 15:05 3.7 -0.5	○	W	29	0:00 7:00 13:58 20:50 1.2 2.5 0.2 1.9
	F	30	5:05 15:50 3.7 -0.7	○	M	30	6:05 15:20 3.7 -0.5	E	Th	30	2:10 8:26 14:38 21:00 1.0 2.1 0.5 2.2
	S	31	5:41 16:14 4.0 -1.0	P	Tu	31	6:58 15:37 3.5 -0.4				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 165th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	3:15 0.6	9:30 2.0	15:05 0.6	21:36 2.6	N C	M	1	6:14 -0.9	22:15 4.2	W A	W	1	6:56 -1.5	22:22 4.3				
	S	2	4:30 0.3	10:58 1.6	15:21 0.7	22:17 3.1		Tu	2	7:05 -1.1	22:53 4.2		Th	2	7:28 -1.4	23:00 4.0				
	S	3	5:45 0.0	12:10 3.2	15:30 0.7	22:56 3.5		W	3	7:52 -1.1	23:35 4.1		F	3	8:00 -1.2	23:40 3.6				
	M	4	6:55 -0.3	13:18 0.8	15:41 0.7	23:40 3.7		Th	4	8:35 -1.0			S	4	8:26 -1.0					
	Tu	5	8:05 -0.5					F	5	9:18 3.8	9:15 -0.8		S	5	9:12 3.0	8:46 -0.6				
	W	6	9:22 3.8	9:05 -0.5				S	6	1:02 3.1	9:00 -0.6		M	6	9:00 2.4	8:55 -0.2				
	Th	7	1:10 3.8	10:17 -0.6				S	7	1:50 2.8	10:18 -0.3		Tu	7	8:55 0.1	17:53 2.5				
	F	8	1:55 3.6	11:02 -0.1				M	8	2:30 2.3	10:40 0.0		W	8	9:10 0.3	18:10 2.8				
	S	9	2:46 3.2	11:56 -0.3				Tu	9	3:54 1.8	10:44 0.4		Th	9	8:40 0.4	18:35 2.9				
	S	10	2:40 3.0	12:36 -0.1				W	10	11:20 0.6	19:30 2.5		F	10	4:18 0.2	18:47 3.1				
	M	11	4:40 2.6	13:05 0.1				Th	11	3:45 0.7	19:50 2.6		S	11	4:45 -0.3	19:00 3.4				
	Tu	12	6:00 2.2	13:28 0.3	20:52 1.9			F	12	4:25 0.3	19:58 2.8		S	12	5:00 -0.6	19:24 3.7				
E A	W	13	2:40 1.3	7:42 1.8	13:52 0.7	20:52 2.0	S C	S	13	4:56 -0.1	20:15 3.1	S C	M	13	5:22 -0.9	19:50 3.9				
	Th	14	3:35 0.9	9:10 1.6	14:34 0.9	21:15 2.2		S	14	5:24 -0.3	20:34 3.4		Tu	14	5:42 -1.1	20:22 4.1				
	F	15	4:04 0.7	10:08 1.5	14:30 1.1	21:24 2.4		M	15	5:55 -0.6	20:54 3.7		W	15	6:00 -1.3	20:35 4.2				
	S	16	4:55 0.4	11:18 1.3	14:20 1.1	21:03 2.7		Tu	16	6:47 -0.9	21:25 3.8		Th	16	6:22 -1.4	21:35 4.1				
	S	17	5:38 0.1	12:50 3.0				W	17	6:42 -4.1	22:04 3.9		F	17	6:45 -1.4	22:15 3.8				
	M	18	6:16 -0.1	22:17 3.2				Th	18	7:40 -4.2	22:38 3.8		S	18	7:06 -1.2	22:54 3.4				
	Tu	19	6:55 -0.4	22:46 3.4				F	19	7:43 -4.2	23:16 3.6		S	19	7:27 -1.0	23:25 2.9				
	W	20	7:38 0.6	23:20 3.5				S	20	8:14 -1.0	23:52 3.3		M	20	7:40 -0.6	18:00 2.1				
	Th	21	8:16 -0.8	23:58 3.5				S	21	8:40 -0.8			Tu	21	8:02 -0.3	16:00 2.6				
	F	22	8:58 -6.8					M	22	9:00 2.8	17:30 -0.4		W	22	9:50 1.6	8:26 -0.1				
	S	23	9:42 3.4	9:38 -0.7				Tu	23	1:00 2.2	9:26 -0.1		Th	23	2:25 0.8	8:30 0.0				
	S	24	1:30 3.2	10:14 -0.5				W	24	10:00 0.2	17:55 2.8		F	24	2:35 0.1	17:50 3.9				
E P	M	25	2:30 2.8	10:50 -0.2	19:10 1.6	21:40 1.5	C N	Th	25	2:10 0.7	5:20 0.9	S N	S	25	3:40 -0.5	18:30 4.3				
	Tu	26	3:55 2.3	11:11 0.1	18:48 1.9			F	26	3:20 0.1	7:55 0.5		S	26	4:25 -1.1	19:15 4.6				
	W	27	9:15 1.3	6:16 1.7	12:02 0.4	19:09 2.3		S	27	4:10 -0.5	19:40 4.1		M	27	5:05 -1.4	20:00 4.7				
	Th	28	1:30 0.9	7:44 1.6	12:24 0.7	19:40 2.7		S	28	4:56 -1.0	20:22 4.4		Tu	28	5:40 -1.6	20:40 4.6				
	F	29	3:08 0.4	9:14 1.1	12:35 0.7	20:15 3.2		M	29	5:42 -1.3	21:05 4.5		W	29	6:06 -1.6	21:20 4.4				
	S	30	4:18 -0.2	10:40 1.0	12:50 0.7	20:55 3.6		Tu	30	6:24 -1.5	21:45 4.5		Th	30	6:35 -1.4	22:00 4.1				
	S	31	5:20 -0.6	21:32 4.0									F	31	7:00 -1.2	22:35 3.7				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Coast and Geodetic Survey Charts for this region, and which is 1.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 16th meridian W. 12 is midnight, 12 is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	6:05	12:06	18:51						M	1	3:33	8:15	13:14	20:38						M	1	1:54	5:47	10:05	18:59					
			1.7	3.7	0.6								3.6	2.9	3.6	—0.2								3.2	3.0	3.4	0.5					
	S	2	1:54	7:19	13:05	20:00					N	Tu	2	4:26	9:34	14:26	21:34						N	Tu	2	3:34	9:20	12:44	20:24			
			3.5	2.0	3.8	0.9							4.1	2.8	3.8	—0.6									3.7	3.0	3.3	0.2				
	S	3	3:16	8:29	14:00	20:55					W	3	5:05	10:19	15:24	22:15							W	3	4:18	10:00	14:24	21:21				
			4.0	2.2	3.9	—0.5							4.3	2.4	3.9	—0.9									4.0	2.7	3.4	—0.1				
	M	4	4:16	9:24	14:49	21:41					Th	4	5:35	10:50	16:11	22:52							Th	4	4:50	10:20	15:29	22:01				
			4.2	2.4	4.1	—0.9							4.5	2.2	4.1	—0.9										4.2	2.2	3.7	—0.3			
	Tu	5	5:01	10:10	15:31	22:24					○	F	5	5:58	11:23	16:54	23:26							F	5	5:06	10:44	16:14	22:38			
			4.5	2.4	4.2	—1.2							4.6	1.8	4.3	—0.9										4.4	1.8	4.0	—0.3			
A	W	6	5:40	10:51	16:12	23:00					S	6	6:20	11:55	17:30	23:56							S	6	5:25	11:08	16:54	23:07				
			4.6	2.2	4.4	—1.2							4.7	1.5	4.4	—0.7									4.6	1.3	4.3	—0.3				
	Th	7	6:11	11:29	16:50	23:36					S	7	6:40	12:26	18:04							○	S	7	5:43	11:35	17:28	23:38				
			4.7	2.0	4.4	—1.2							4.7	1.2	4.3							A		4.6	1.2	4.4	—0.2					
	F	8	6:41	12:03	17:26						A	M	8	0:25	7:01	13:00	18:37						M	8	6:01	12:03	17:59					
			4.6	1.9	4.4								—0.5	4.7	1.0	4.2								4.7	0.5	4.5						
	S	9	0:10	7:09	12:41	18:00					E	Tu	9	1:01	7:25	13:32	19:12						E	Tu	9	0:11	6:24	12:31	18:30			
			—1.0	4.5	1.8	4.2							—0.2	4.7	0.9	4.1									—0.1	4.8	0.3	4.6				
	S	10	0:45	7:38	13:20	18:35					W	10	1:32	7:49	14:05	19:51							W	10	0:39	6:48	13:00	19:00				
			—0.7	4.5	1.7	4.0							0.1	4.7	0.8	3.9									0.1	4.7	0.1	4.5				
E	M	11	1:16	8:05	14:00	19:16					Th	11	2:03	8:11	14:36	20:29							Th	11	1:08	7:10	13:23	19:29				
			—0.4	4.5	1.6	3.7							0.6	4.4	0.7	3.7									0.3	4.7	0.2	4.4				
	Tu	12	1:56	8:35	14:45	20:02					F	12	2:32	8:36	15:11	21:06							F	12	1:40	7:34	13:54	20:05				
			0.0	4.0	1.5	3.5							1.0	4.2	0.8	3.4									0.7	4.5	0.1	4.1				
	W	13	2:38	9:05	15:26	20:56					○	S	13	3:14	9:08	16:06	22:19							S	13	2:11	7:58	14:33	20:54			
			0.5	4.2	1.3	3.2							1.5	4.0	0.8	3.0									1.2	4.3	0.2	3.7				
	Th	14	3:13	9:30	16:14	21:56					S	14	4:07	9:41	17:19									S	14	2:46	8:22	15:21	22:00			
			1.0	4.0	1.3	2.9							2.1	3.8	0.7											1.7	4.1	0.3	3.2			
	○	F	15	3:56	10:09	17:12	23:09					M	15	0:38	5:35	10:40	18:45						○	M	15	3:34	8:55	16:30				
			1.5	3.9	1.1	2.8							2.9	2.5	3.6	0.5										2.4	3.7	0.5				
S	S	16	4:58	11:02	18:24					Tu	16	2:50	7:31	12:25	20:05							S	Tu	16	0:10	5:15	9:43	18:00				
			1.8	3.7	0.9								3.4	2.8	3.4	0.1										3.1	2.8	3.5	0.5			
	S	17	1:21	6:30	12:12	19:31				S	W	17	3:50	8:55	14:05	21:05							W	17	2:29	7:28	11:51	19:36				
			3.1	2.2	3.7	0.4							4.0	2.6	3.7	—0.5										3.5	2.8	3.2	0.3			
	M	18	2:54	7:52	13:20	20:31					Th	18	4:30	9:50	15:13	21:56							Th	18	3:24	8:48	14:05	20:45				
			3.6	2.4	3.7	—0.1							4.5	2.2	4.1	—0.9										4.1	2.4	3.6	—0.1			
	Tu	19	3:55	9:01	14:25	21:23					F	19	5:01	10:33	16:06	22:41							F	19	3:59	9:35	15:11	21:40				
			4.1	2.3	3.9	—0.6							4.8	1.7	4.7	—1.3										4.4	1.8	4.1	—0.5			
	W	20	4:40	9:58	15:20	22:09				●	S	20	5:33	11:11	16:53	23:23							S	20	4:29	10:14	16:04	22:24				
			4.5	2.2	4.2	—1.2							5.0	1.2	4.9	—1.4										4.7	1.1	4.7	—0.7			
P	Th	21	5:18	10:45	16:09	22:51				P	S	21	6:03	11:50	17:38							P	S	21	4:58	10:50	16:50	23:03				
			4.8	1.9	4.5	—1.5							5.1	0.7	5.2											4.9	0.5	5.1	—0.8			
	●	F	22	5:55	11:25	16:51	23:34				M	22	0:01	6:34	12:27	18:21						●	M	22	5:25	11:26	17:30	23:45				
			5.0	1.7	4.7	—1.7							—1.3	5.1	0.3	5.2						E		5.0	0.0	5.3	—0.7					
	P	S	23	6:29	12:07	17:36				E	Tu	23	0:40	7:01	13:06	19:08							Tu	23	5:57	12:03	18:11					
			5.1	1.4	4.9								—0.9	5.0	0.1	5.0									5.1	—0.3	5.4					
	S	24	0:15	7:05	12:48	18:21					W	24	1:21	7:31	13:45	19:51							W	24	0:25	6:31	12:40	18:51				
			—1.6	5.0	1.2	4.8							—0.4	4.9	0.0	4.9									—0.3	5.0	—0.6	5.3				
	M	25	0:58	7:40	13:30	19:08					Th	25	2:05	8:10	14:21	20:34							Th	25	1:03	6:59	13:15	19:36				
			—1.3	4.9	1.0	4.6							0.2	4.6	0.1	4.4									0.2	4.7	—0.7	4.9				
E	Tu	26	1:38	8:13	14:15	20:00					F	26	2:44	8:39	15:05	21:31							F	26	1:40	7:25	13:50	20:24				
			—0.7	4.7	0.8	4.3							0.9	4.2	0.2	3.7									0.8	4.5	—0.6	4.4				
	W	27	2:21	8:48	15:01	21:00				○	S	27	3:27	9:05	16:01	23:03							S	27	2:15	7:49	14:33	21:20				
			—0.1	4.5	0.7	4.0							1.7	3.9	0.4	3.3									1.5	4.3	—0.3	3.8				
	Th	28	3:12	9:23	15:47	21:49					S	28	4:20	9:27	17:19								S	28	2:55	8:13	15:26	22:46				
			0.8	4.1	0.7	3.6							2.4	3.7	0.6										2.0	4.0	0.1	3.4				
	○	F	29	4:02	10:03	16:44	23:28															○	M	29	3:43	8:30	16:34					
			1.2	3.9	0.7	3.3																			2.7	3.7	0.6					
	S	30	5:06	10:45	18:05																		Tu	30	1:26	5:55	8:58	18:13				
			2.0	3.6	0.6																				3.5	3.0	3.2	0.9				
D	S	31	1:50	6:30	11:52	19:30																W	31	2:57	9:15	12:50	19:50					
			3.5	2.7	3.5	0.2																			3.7	2.7	2.8	0.8				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	3:36 4.0	9:30 2.2	14:35 3.1	20:54 0.6	A	S	1	2:56 4.0	9:11 1.2	15:21 3.5	21:08 1.1	E	Tu	1	2:46 4.1	9:19 0.0	15:59 4.1	21:21 1.3												
	F	2	4:01 4.1	9:53 1.7	15:31 3.6	21:36 0.5	S	2	3:28 4.0	9:41 0.8	15:54 3.9	21:43 1.0	W		2	3:20 4.3	9:51 -0.3	16:36 4.3	22:11 1.5													
	S	3	4:21 4.2	10:16 1.1	16:12 4.0	22:11 0.5	M	3	3:50 4.2	10:01 0.4	16:16 4.2	22:13 0.9	Th		3	3:50 4.3	10:25 -0.8	17:15 4.6	22:50 1.6													
	S	4	4:40 4.4	10:42 0.6	16:46 4.3	22:50 0.3	Tu	4	4:14 4.4	10:24 0.0	16:50 4.5	22:42 0.9	F		4	4:19 4.4	11:00 -1.1	17:53 4.7	23:20 1.7													
	M	5	5:02 4.5	11:09 0.4	17:16 4.5	23:19 0.4	W	5	4:37 4.5	10:51 -0.4	17:21 4.7	23:15 1.0	S		5	4:49 4.5	11:39 -1.3	18:35 4.7	23:50 1.7													
O	Tu	6	5:25 4.6	11:35 0.1	17:43 4.7	23:45 0.2	Th	6	4:59 4.6	11:21 -0.8	17:58 4.8	23:49 1.2	S	S	6	5:11 1.9	12:00 4.5	18:05 -1.4	24:15 4.7													
	W	7	5:46 4.6	12:00 -0.2	18:10 4.8	24:15 0.2	F	7	5:21 4.6	11:55 -1.0	18:35 4.8	24:15 1.2	M	7	5:54 2.0	12:25 4.4	19:05 -1.2	25:05 4.6														
	Th	8	6:04 0.5	12:25 4.6	18:41 -0.4	24:41 4.7	S	8	5:47 1.4	12:30 4.5	19:15 -1.0	24:41 4.7	Tu	8	6:28 2.1	13:43 4.2	20:51 -0.9	25:51 4.5														
	F	9	6:29 0.8	12:54 4.5	19:18 -0.5	25:11 4.6	S	9	6:15 1.8	13:09 4.4	20:01 -0.9	25:01 4.4	W	9	7:26 2.2	14:34 3.9	21:45 -0.4	26:45 4.5														
	S	10	6:50 1.2	13:29 4.4	20:00 -0.5	26:00 4.3	M	10	6:48 2.1	13:52 4.2	20:55 -0.7	25:55 4.2	Th	10	8:36 2.1	15:30 3.6	22:40 0.1	27:40 4.1														
S	S	11	7:16 1.7	14:09 4.3	20:51 -0.3	26:51 3.9	Tu	11	7:26 2.3	14:44 4.0	22:01 -0.3	26:01 3.9	F	11	8:40 1.9	16:40 3.2	23:26 0.7	28:26 4.0														
	M	12	7:38 2.2	14:56 4.1	21:58 0.0	27:58 3.6	W	12	8:40 2.7	15:45 3.5	23:24 0.1	26:24 3.8	S	12	9:41 1.4	17:59 3.2	24:59 1.2	29:59 4.0														
	Tu	13	8:24 2.7	16:01 3.7	23:51 0.3	28:51 3.4	Th	13	9:45 2.4	17:01 3.1	24:01 0.5	27:01 3.5	S	13	10:42 3.8	19:09 2.9	26:09 3.5	31:09 4.1														
	W	14	9:24 2.9	17:26 3.2	25:01 0.5	29:01 3.2	F	14	10:47 3.8	18:21 2.0	25:01 3.1	28:01 0.8	M	14	11:50 3.9	20:39 0.4	27:39 4.0	32:39 4.6														
	Th	15	1:40 3.7	7:19 2.5	12:05 3.0	19:03 0.6	S	15	1:36 4.0	7:49 1.3	13:54 3.5	19:55 0.9	Tu	15	2:09 4.1	8:41 -0.3	15:37 4.4	21:37 1.0														
P	F	16	2:38 4.0	8:25 1.9	14:01 3.5	20:18 0.4	S	16	2:20 4.0	8:35 0.8	14:49 4.0	20:54 0.8	W	16	2:50 4.3	9:29 -0.8	16:30 4.7	22:50 1.9														
	S	17	3:12 4.3	9:08 1.2	15:05 4.1	21:13 0.2	M	17	3:00 4.2	9:10 0.1	15:40 4.6	21:39 0.8	Th	17	3:29 4.4	10:12 -1.2	17:17 4.8	23:17 1.9														
	S	18	3:45 4.5	9:49 0.5	15:54 4.6	22:04 0.1	Tu	18	3:39 4.4	9:50 -0.5	16:28 5.0	22:20 1.0	F	18	4:06 4.6	10:54 -1.4	18:00 4.7	23:21 2.0														
	M	19	4:15 4.7	10:25 -0.1	16:36 5.0	22:49 0.0	W	19	4:10 4.6	10:29 -1.1	17:14 5.1	23:00 1.2	S	19	4:41 4.6	11:35 -1.4	18:41 4.7	23:41 2.0														
	Tu	20	4:55 4.7	11:01 -0.6	17:19 5.4	23:25 0.2	Th	20	4:39 4.7	11:09 -1.4	17:59 5.1	23:39 1.4	S	20	5:02 2.0	12:09 4.5	19:14 -1.3	24:14 4.6														
N	W	21	5:20 4.8	11:34 -1.0	18:00 5.4	24:00 0.2	F	21	5:09 4.7	11:47 -1.5	18:41 4.9	23:41 1.4	M	21	5:44 2.0	12:34 4.3	19:39 -1.0	24:39 4.4														
	Th	22	6:02 0.6	12:06 4.8	18:44 -1.3	24:44 5.2	S	22	6:17 1.7	12:39 4.7	19:26 -1.4	24:26 4.7	Tu	22	6:55 2.0	13:14 4.1	20:19 -0.5	25:19 4.3														
	F	23	6:39 1.0	13:01 4.7	19:30 -1.2	25:30 4.8	M	23	6:56 1.9	13:09 4.4	20:12 -1.0	25:12 4.3	W	23	7:26 2.0	14:01 3.7	21:15 -0.1	26:15 4.2														
	S	24	7:15 1.4	13:40 4.5	20:18 -0.9	26:18 4.4	M	24	7:40 2.1	14:01 4.1	21:06 -0.6	26:06 4.1	Th	24	8:11 1.9	14:30 3.3	22:15 0.4	27:15 4.1														
	S	25	7:55 1.9	14:20 4.2	21:14 -0.5	27:14 3.8	Tu	25	8:20 2.2	14:37 3.7	22:00 0.0	27:00 3.9	F	25	8:43 1.8	15:00 3.0	23:19 1.0	28:19 3.9														
D	M	26	8:40 2.3	15:07 3.9	22:29 0.0	28:29 3.5	W	26	9:35 2.3	16:08 3.2	23:00 0.6	28:00 3.7	S	26	10:09 1.6	16:42 2.8	24:14 1.4	29:14 3.8														
	Tu	27	9:45 2.7	16:24 3.4	23:49 0.6	29:49 1.0	Th	27	10:40 2.2	17:32 2.7	24:00 1.0	29:00 1.4	S	27	11:20 1.3	17:48 2.8	25:19 1.8	30:19 3.5														
	W	28	11:45 3.4	18:39 2.7	25:49 2.8	31:49 1.0	F	28	12:40 3.7	19:49 1.9	25:19 2.7	30:19 1.4	M	28	13:00 0.9	19:00 3.0	26:19 2.1	31:19 3.8														
	Th	29	1:41 3.6	7:50 2.2	12:54 2.6	18:50 1.2	S	29	1:00 3.7	7:35 1.4	13:58 2.9	19:10 1.6	Tu	29	2:49 3.9	8:54 0.4	14:52 3.4	20:52 2.1														
	F	30	2:27 3.7	8:41 1.7	14:29 3.1	20:10 1.8	M	30	3:44 3.8	9:48 1.0	15:49 3.3	21:07 1.7	W	30	4:41 4.0	10:48 0.0	16:49 3.8	22:09 2.1														
							M	31	4:43 3.9	10:53 0.5	16:59 3.7	22:12 1.7																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
S	Th	1	2:31 4.1	9:25 -0.5	16:30 4.1	21:48 2.1	P	S	1	3:46 4.3	10:33 -1.2	17:36 4.8	23:06 1.8	E	W	1	5:18 5.1	11:40 -1.1	18:07 5.0	23:35 5.0									
	F	2	3:14 4.2	10:06 -0.9	17:10 4.5	22:35 2.0		Th	2	0:03 0.3	6:00 5.2	12:18 -0.8	18:35 5.0																
	S	3	3:54 4.4	10:46 -1.3	17:50 4.7	23:19 1.9		Tu	3	5:19 4.8	11:56 -1.4	18:44 5.0	F		3	0:41 0.0	6:45 5.1	12:59 -0.4	19:10 4.8										
	S	4	4:33 4.5	11:26 -1.5	18:28 4.8	23:59 1.9		W	4	0:27 1.2	6:01 4.8	12:38 -1.2	19:19 4.9		S	4	1:21 0.0	7:29 4.9	13:41 0.2	19:45 4.6									
	M	5	0:01 1.9	5:15 4.5	12:08 -1.5	19:09 4.9		Th	5	1:09 0.9	6:49 4.7	13:19 -0.8	19:49 4.7		S	5	2:00 0.0	8:13 4.5	14:25 0.9	20:15 4.2									
	Tu	6	0:45 1.8	5:57 4.5	12:50 -1.3	19:49 4.8		F	6	1:51 0.7	7:40 4.5	14:00 -0.2	20:22 4.6		M	6	2:39 0.0	9:08 4.0	15:07 1.7	20:43 4.0									
	W	7	1:29 1.7	6:43 4.3	13:35 -1.0	20:28 4.7		S	7	2:36 0.6	8:35 4.2	14:48 0.6	21:01 4.3		Tu	7	3:34 0.2	10:30 3.4	15:58 2.3	21:09 3.7									
P	Th	8	2:19 1.6	7:36 4.1	14:20 -0.4	21:09 4.5	C	S	8	3:19 0.6	9:21 3.9	15:39 1.2	21:40 4.0	N	W	8	4:46 0.4	13:00 3.3	17:25 2.9	21:53 3.4									
	F	9	3:11 1.4	8:41 3.8	15:11 0.2	21:50 4.3		M	9	4:11 0.6	10:41 3.4	16:36 1.9	22:19 3.8		Th	9	6:23 0.4	14:55 3.7	19:51 3.0	21:18 2.7									
	S	10	4:10 1.2	9:59 3.6	16:15 1.0	22:33 4.0		Tu	10	5:25 0.2	12:47 3.2	17:50 2.3	23:15 3.6		F	10	0:19 3.2	7:52 0.2	15:48 4.0	21:18 2.7									
	S	11	4:59 0.9	11:09 3.4	17:17 1.4	23:21 3.8		W	11	6:49 0.2	14:49 3.7	19:22 2.8	23:59 3.8		S	11	2:02 3.3	8:55 0.0	16:20 4.3	21:53 2.1									
	M	12	6:05 0.6	12:53 3.4	18:30 1.9	23:59 3.8		Th	12	8:06 3.6	15:59 -0.2	20:56 4.0	23:59 3.8		S	12	3:09 3.7	9:41 -0.2	16:41 4.5	22:21 1.6									
	Tu	13	0:19 3.8	7:19 0.2	14:34 3.7	19:45 2.2		F	13	1:56 3.7	9:06 -0.5	16:41 3.8	21:54 2.4		M	13	3:58 4.1	10:20 -0.2	17:04 4.6	22:49 1.1									
	W	14	1:18 3.9	8:21 -0.3	15:49 4.1	20:51 2.4		S	14	2:58 3.9	9:56 -0.8	17:15 4.5	22:30 2.2		Tu	14	4:40 4.4	10:50 -0.2	17:21 4.6	23:15 0.7									
N	Th	15	2:11 4.1	9:15 -0.8	16:42 4.4	21:46 2.3	S	S	15	3:53 4.2	10:36 -0.8	17:43 4.6	23:05 1.8	A	W	15	5:15 4.5	11:24 -0.1	17:40 4.7	23:45 0.3									
	F	16	3:03 4.3	10:04 -1.1	17:26 4.6	22:31 2.3		M	16	4:40 4.4	11:11 -0.8	18:04 4.7	23:39 1.4		Th	16	6:48 4.5	11:57 0.1	18:08 4.7	23:59 0.3									
	S	17	3:51 4.4	10:47 -1.3	18:04 4.6	23:14 2.1		Tu	17	5:19 4.4	11:44 -0.6	18:25 4.6	23:59 1.4		F	17	0:13 0.1	6:17 4.6	12:23 0.2	18:28 4.7									
	S	18	4:35 4.5	11:24 -1.2	18:31 4.7	23:51 1.9		W	18	6:01 1.1	12:38 4.4	19:19 -0.4	24:09 4.6		S	18	0:40 0.2	6:46 4.5	12:52 0.5	18:49 4.6									
	M	19	5:16 4.5	12:01 -1.0	19:00 4.6	23:59 1.9		Th	19	6:49 0.8	14:49 4.3	19:22 -0.1	23:59 4.6		S	19	1:04 0.0	7:12 4.3	13:20 0.9	19:11 4.4									
	Tu	20	0:30 1.7	5:53 4.3	12:35 -0.7	19:28 4.5		F	20	1:16 0.7	7:06 4.2	13:21 0.3	19:30 4.6		M	20	1:34 0.0	7:50 4.0	13:50 1.3	19:32 4.2									
	W	21	1:09 1.5	6:33 4.1	13:10 -0.4	19:55 4.5		S	21	1:46 0.6	7:42 4.0	13:49 0.7	19:57 4.3		Tu	21	2:11 0.2	8:34 3.7	14:24 1.8	19:58 4.0									
A	Th	22	1:49 1.4	7:15 3.8	13:46 0.0	20:21 4.4	S	S	22	2:16 0.6	8:12 3.8	14:20 1.0	20:20 4.2	S	W	22	2:56 0.3	9:36 3.3	15:10 2.3	20:30 3.8									
	F	23	2:32 1.3	8:00 3.6	14:26 0.5	20:50 4.3		M	23	2:54 0.7	8:55 3.5	14:56 1.5	20:49 4.0		Th	23	4:00 0.5	11:31 3.0	16:50 2.8	21:13 3.4									
	S	24	3:13 1.2	8:51 3.3	15:00 1.0	21:14 4.1		Tu	24	3:45 0.8	9:58 3.0	15:41 2.0	21:20 3.7		F	24	5:27 0.6	13:59 3.5	19:00 2.8	23:11 3.0									
	S	25	3:55 1.1	9:44 3.0	15:36 1.5	21:46 4.0		W	25	4:50 0.8	11:54 2.8	17:58 2.5	22:06 3.6		S	25	7:02 0.5	14:55 3.9	20:25 2.2	23:59 3.0									
	M	26	4:46 1.0	10:41 2.8	16:30 1.8	22:31 3.8		Th	26	6:13 0.6	14:24 3.2	19:00 2.8	23:46 3.4		S	26	1:39 3.3	8:18 0.1	15:30 4.3	21:11 1.7									
	Tu	27	5:54 0.8	12:44 2.8	17:48 2.2	23:30 3.7		F	27	7:34 0.3	15:26 3.8	20:28 2.6	23:59 3.7		M	27	2:50 3.9	9:12 -0.2	16:00 4.6	21:50 1.0									
	W	28	7:09 0.5	14:31 3.2	19:18 2.4	23:59 3.7		S	28	1:39 3.5	8:40 -0.2	16:02 4.3	21:27 2.1		Tu	28	3:43 4.5	9:59 -0.5	16:30 4.8	22:26 0.4									
S	Th	29	0:41 3.7	8:08 0.1	15:38 3.7	20:35 2.5	S	S	29	2:50 3.9	9:31 -0.6	16:37 4.6	22:10 1.7	P	W	29	4:27 5.0	10:40 -0.6	16:58 5.0	23:01 0.0									
	F	30	1:52 3.8	9:01 -0.4	16:23 4.1	21:35 2.2		M	30	3:46 4.4	10:20 -1.0	17:09 4.9	22:50 1.2		Th	30	5:09 5.3	11:21 -0.6	17:34 5.0	23:39 -0.4									
	S	31	2:54 4.0	9:48 -0.9	17:01 4.6	22:25 2.0		Tu	31	4:33 4.8	11:01 -1.2	17:39 5.0	23:27 0.7																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.					W.	Mo.					W.	Mo.						
N	F	1	5:46	12:03	18:05	N	M	1	0:24	7:10	12:55	18:18	N	W	1	0:50	7:52	13:20	18:20	
			5.4	0.2	4.9				-1.4	5.0	1.4	4.6				-1.3	4.5	2.0	4.5	
	S	2	0:15	6:31	12:41		18:31	Tu	2	1:05	7:59	13:34		18:45	Th	2	1:31	8:40	14:10	19:15
			-0.8	5.4	0.2		4.7			-1.2	4.5	1.9		4.4			-0.8	4.2	2.2	3.9
	S	3	0:50	7:16	13:19		18:58	W	3	1:49	8:55	14:20		19:16	F	3	2:15	9:34	15:11	19:50
			-0.9	5.1	0.8		4.6			-0.7	4.1	2.3		4.0			-0.3	4.0	2.3	3.4
	M	4	1:25	8:05	13:56		19:25	Th	4	2:36	10:05	15:25		19:50	S	4	3:08	10:31	16:33	21:10
			-0.8	4.6	1.5		4.3			-0.2	3.6	2.7		3.4			0.3	3.8	2.2	2.5
	Tu	5	2:10	9:01	14:39		19:49	☾ F	5	3:34	11:49	17:10		20:49	☾ S	5	4:05	11:34	18:10	23:40
			-0.5	4.0	2.1		4.0			0.4	3.6	2.7		2.9			0.9	3.7	1.9	2.7
	W	6	3:01	10:21	15:36		20:05	S	6	4:54	13:15	19:30		...	M	6	5:40	12:35	19:15	...
			0.0	3.5	2.7		3.6			0.9	3.7	2.2		...			1.5	3.6	1.5	...
E	Th	7	4:10	12:45	17:44	20:51	E	S	7	0:38	6:28	14:04	20:24	E	Tu	7	1:45	6:51	13:25	19:50
			0.4	3.4	2.9	3.2				2.7	1.3	3.8	1.6				2.8	1.7	3.7	1.6
	F	8	5:46	14:22	20:22	M		8	2:16	7:57	14:39	20:58	W		8	2:30	7:52	13:59	20:50	
			0.8	3.8	2.7				3.1	1.4	3.9	1.1				3.2	1.9	3.8	0.5	
	S	9	0:35	7:26	15:09	21:04		Tu	9	3:11	8:58	15:12	21:23		Th	9	3:16	8:40	14:30	21:30
			2.8	0.7	4.0	2.1				3.5	1.2	4.0	0.6				3.5	1.9	4.0	0.6
	S	10	2:19	8:31	15:36	21:31		W	10	3:39	9:28	15:31	21:45		F	10	3:57	9:20	15:04	21:45
			3.1	0.7	4.1	1.5				4.0	1.2	4.2	0.2				4.0	1.8	4.2	-0.4
	M	11	3:18	9:20	16:58	21:58		Th	11	4:09	9:58	15:56	22:10		S	11	4:35	10:00	15:38	22:15
			3.6	0.6	4.3	0.9				4.2	1.1	4.4	-0.2				4.3	1.7	4.3	-0.7
	Tu	12	4:00	10:00	16:19	22:26		F	12	4:40	10:28	16:19	22:39		S	12	5:08	10:38	16:05	22:40
			4.0	0.6	4.3	0.5				4.4	1.1	4.5	-0.6				4.5	1.7	4.4	-1.1
A	W	13	4:34	10:35	16:44	22:51	A	S	13	5:13	10:59	16:40	23:06	A	M	13	5:43	11:14	16:38	23:25
			4.3	0.5	4.4	0.2				4.6	1.1	4.6	-0.8				4.6	1.8	4.5	-1.3
	Th	14	5:02	11:01	17:05	23:17		S	14	5:45	11:30	17:01	23:40		Tu	14	6:20	11:53	17:06	...
			4.6	0.3	4.6	-0.1				4.6	1.3	4.6	-1.0				4.7	1.9	4.5	...
	F	15	5:30	11:28	17:25	23:40		M	15	6:21	12:04	17:24	...		W	15	0:01	7:00	12:33	17:40
			4.7	0.5	4.6	-0.4				4.7	1.5	4.5	...				-1.4	4.7	1.9	4.4
	S	16	5:56	11:55	17:44	...		Tu	16	0:11	7:00	12:40	17:51		Th	16	0:40	7:40	13:15	18:15
			4.7	0.7	4.6	...				-1.1	4.5	1.8	4.4				-1.3	4.7	2.0	4.3
	S	17	0:04	6:28	12:24	18:03		W	17	0:50	7:40	13:20	18:23		F	17	1:21	8:21	14:05	19:00
			-0.5	4.6	1.0	4.5				-1.0	4.4	2.1	4.3				-1.0	4.5	2.1	4.1
	M	18	0:32	7:01	12:55	18:26		Th	18	1:29	8:30	14:09	19:00		S	18	2:05	9:09	15:00	19:50
			-0.6	4.5	1.4	4.4				-0.8	4.2	2.3	4.1				-0.6	4.4	2.0	3.7
P	Tu	19	1:06	7:41	13:29	18:49	P	F	19	2:15	9:29	15:11	19:44	P	S	19	2:58	9:58	16:08	21:35
			-0.5	4.2	1.8	4.3				-0.4	3.9	2.6	3.7				-0.1	4.1	1.9	3.3
	W	20	1:45	8:29	14:05	19:16		S	20	3:10	10:44	16:39	20:59		M	20	4:00	10:50	17:18	23:34
			-0.4	3.9	2.2	4.1				0.1	3.8	2.6	3.2				0.5	4.0	1.5	3.1
	Th	21	2:30	9:32	15:01	19:54		☾ S	21	4:23	12:01	18:15	23:24		☾ Tu	21	5:20	11:47	18:19	...
			-0.1	3.6	2.7	3.7				0.5	3.8	2.2	2.8				1.2	3.7	1.1	...
	F	22	3:30	11:19	16:50	20:41		M	22	5:53	13:04	19:23	...		W	22	0:35	6:38	12:41	19:50
			0.3	3.4	2.9	3.2				0.9	3.9	1.4	...				3.3	1.6	3.8	0.6
	S	23	4:53	13:08	18:55	23:18		Tu	23	1:25	7:26	13:52	20:10		Th	23	2:06	7:49	13:40	20:20
			0.6	3.7	2.5	2.8				3.3	1.1	3.9	0.9				3.7	1.7	4.0	-0.1
	S	24	6:28	14:09	20:02	...		W	24	2:23	8:26	14:34	20:45		F	24	3:19	8:48	14:29	21:10
			0.7	4.0	1.9	...				3.9	1.0	4.2	0.2				4.2	1.9	4.2	-0.7
O	M	25	1:40	7:48	14:45	20:46	O	Th	25	3:18	9:15	15:13	21:29	O	S	25	4:14	9:40	15:10	21:50
			3.3	0.6	4.2	1.1				4.4	0.9	4.4	-0.5				4.5	2.0	4.4	-1.2
	Tu	26	2:45	8:49	15:18	21:25		F	26	4:09	9:59	15:46	22:09		S	26	5:03	10:25	15:51	22:40
			3.9	0.4	4.5	0.4				4.9	1.0	4.6	-1.1				4.8	2.0	4.6	-1.6
	W	27	3:34	9:41	15:55	22:04		☉ S	27	4:54	10:40	16:19	22:49		☉ M	27	5:46	11:06	16:31	23:20
			4.6	0.2	4.6	-0.1				5.1	1.2	4.8	-1.5				4.9	1.9	4.7	-1.6
	Th	28	4:16	10:24	16:29	22:39		S	28	5:40	11:19	16:50	23:29		Tu	28	6:27	11:48	17:10	...
			5.0	0.1	4.8	-0.7				5.2	1.4	4.9	-1.7				4.8	1.9	4.7	...
	F	29	4:59	11:02	16:56	23:10		M	29	6:24	11:58	17:20	...		W	29	0:00	7:01	12:28	17:40
			5.4	0.3	4.8	-1.2				5.0	1.6	4.8	...				-1.5	4.7	1.8	4.6
	S	30	5:41	11:40	17:21	23:49		N Tu	30	0:09	7:08	12:38	17:54		Th	30	0:39	7:38	13:09	18:27
			5.5	0.6	4.9	-1.5				-1.6	4.8	1.8	4.6				-1.2	4.6	1.6	4.3
P	S	31	6:24	12:16	17:50	P							F	31	1:16	8:12	13:54	19:00		
			5.3	1.0	4.8											-0.8	4.4	1.7	4.0	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.
 ●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

●, new moon; ☾, 1st quart.; ☉, full moon; ☾, 3d quart.; E, moon on the equator; N, 8, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

The tides are placed in the border of occurrence, with their times on the first line and heights on the second line of each day: a comparison of the consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from the Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☉, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.					
u	Th 1	0:36	6:03	12:37	19:15	O	S 1	1:53	7:18	13:48	20:24	P	W 1	2:41	8:34	14:54	21:09		
		2.6	6.7	0.0	7.2			2.0	7.4	13.3	8.3			0.3	8.8	14.5	9.0		
	F 2	1:22	6:46	13:20	19:56		P	M 2	2:30	8:00	14:30		21:01	E	Th 2	3:18	9:15	15:33	21:45
		2.3	7.0	0.7	7.8				1.6	7.8	14.6		8.7			0.1	8.9	15.1	8.9
	S 3	2:02	7:26	14:08	20:38			P	Tu 3	3:05	8:43		15:12		21:39	F	3	3:55	9:59	16:13	22:23
	2.2	7.2	1.2	8.2		1.2			8.1	15.6	8.9		0.2		8.6		16.4	8.5	
S 4	2:41	8:06	14:44	21:19	P	W 4	3:42		9:26	15:54	22:16	S	4	4:35	10:45		16:56	22:59	
	2.0	7.4	1.4	8.5			0.9	8.1	15.3	8.8			0.1	8.3	16.4	7.9			
M	5	3:20	8:45	15:26	22:00	E	Th 5	4:21	10:11	16:36	22:54	M	5	5:15	11:31	17:39	23:34		
		1.9	7.4	1.4	8.6			0.8	8.0	16.7	8.5			0.3	7.6	17.5	7.0		
	Tu 6	4:00	9:28	16:10	22:44		E	F 6	5:05	10:59	17:19		23:33	M	6	6:10	12:31	18:33	24:01
		1.8	7.3	1.1	8.5				0.8	7.7	17.2		8.0			0.7	6.8	18.6	7.0
	W 7	4:44	10:14	16:55	23:28			C	S 7	5:48	11:55		18:06		24:01	C	Tu 7	0:19	7:15
	1.8	7.2	0.6	8.2		0.9			7.8	18.1	8.0		6.2		1.2		6.9	3.5	
Th 8	5:31	11:06	17:44	24:01	C	S 8	0:20		6:41	12:50	19:01	W	8	1:25	8:34		16:28	22:49	
	1.8	6.9	0.1	8.0			7.3	1.2	6.7	2.0			5.6	1.5	5.4	8.7			
F	9	0:12	6:25	12:08	18:35	M	9	1:08	7:47	14:12	20:24	N	Th 9	3:07	10:00	18:13	24:01		
		7.8	1.8	6.6	0.9			6.6	1.4	6.0	3.0			5.5	1.4	5.9	8.0		
	S 10	1:00	7:20	13:24	19:37		Tu	10	2:10	9:04	16:14		22:21	F	10	0:09	4:37	11:11	18:56
		7.4	1.8	6.4	1.8				6.1	1.4	5.7		3.4			8.3	5.9	1.0	6.5
	S 11	1:53	8:27	14:40	20:52			W	11	3:29	10:20		18:09		23:56	S	11	0:51	5:45	12:09	19:21
	6.8	1.6	6.1	2.4		6.0			1.1	5.9	3.2		2.6		6.5		0.6	7.0	
M 12	2:56	9:36	16:13	22:21	Th	12	4:45		11:26	19:07	24:49	S	12	1:20	6:35		12:54	19:40	
	6.5	1.4	6.0	2.7			6.2	0.6	6.5	3.0			2.1	7.1	0.1	7.4			
Tu	13	4:01	10:43	17:43	23:45	N	F 13	0:58	5:47	12:20	19:45	M	13	1:45	7:16	13:30	20:01		
		6.5	0.9	6.3	2.8			2.8	6.7	0.0	6.9			1.6	7.5	0.2	7.7		
	W 14	5:02	11:40	18:50	24:49		S	14	1:37	6:39	13:07		20:12	Tu	14	2:04	7:51	14:04	20:24
		6.7	0.2	6.7	3.0				2.4	7.2	0.4		7.3			1.2	7.8	0.3	8.0
	Th 15	0:49	6:56	12:31	19:40			S	15	2:10	7:24		13:48		20:36	W	15	2:30	8:22	14:33	20:47
	2.6	7.0	0.4	7.0		2.0			7.6	0.7	7.6		0.7		7.9		0.2	8.1	
F 16	1:39	6:46	13:18	20:20	M	16	2:37		8:04	14:25	20:58	Th	16	2:54	8:50		15:04	21:11	
	2.4	7.3	0.8	7.3			1.7	7.7	0.8	7.9			0.5	8.0	0.1	8.2			
S	17	2:19	7:31	14:00	20:51	Tu	17	3:00	8:38	14:57	21:21	F	17	3:19	9:20	15:32	21:34		
		2.2	7.6	1.1	7.6			1.4	7.8	0.7	8.0			0.3	8.0	0.3	8.0		
	S 18	2:52	8:10	14:40	21:22		W	18	3:25	9:09	15:29		21:45	S	18	3:46	9:50	15:59	21:57
		2.1	7.6	1.2	7.7				1.2	7.7	0.4		8.1			0.3	7.8	0.8	7.7
	M 19	3:21	8:48	15:18	21:52			Th	19	3:50	9:39		15:58		22:10	S	19	4:11	10:20	16:21	22:19
	2.0	7.5	1.0	7.8		1.1			7.6	0.1	8.0		0.5		7.6		1.3	7.3	
Tu 20	3:51	9:22	15:54	22:22	F	20	4:19		10:10	16:26	22:40	M	20	4:45	11:00		16:50	22:41	
	1.9	7.3	0.5	7.8			1.1	7.4	0.7	7.7			0.7	7.3	1.9	6.7			
W	21	4:23	9:56	16:29	22:52	S	21	4:48	10:45	16:56	23:07	Tu	21	5:28	11:49	17:21	23:06		
		1.9	7.0	0.0	7.7			1.1	7.1	1.3	7.2			1.1	6.8	2.6	6.1		
	Th 22	4:56	10:30	17:02	23:25		S	22	5:23	11:24	17:28		23:35	W	22	6:21	12:56	18:10	23:38
		1.9	6.7	0.6	7.5				1.2	6.7	1.8		6.7			1.5	6.3	3.3	6.5
	F 23	5:31	11:10	17:36	23:59			M	23	6:04	12:09		17:56		24:01	Th	23	7:37	14:28	20:27	23:04
	1.9	6.4	1.3	7.2		1.6			6.4	2.5	8.0		1.8		5.8		3.9	8.0	
S 24	6:11	11:57	18:15	24:01	Tu	24	0:07		7:01	13:15	18:43	F	24	0:55	9:08		16:17	23:04	
	2.0	6.1	2.1	7.0			6.2	1.8	5.9	3.3			5.0	1.7	6.8	8.6			
D	S 25	0:37	7:01	12:55	18:59	W	25	0:48	8:20	14:54	20:49	S	25	3:46	10:29	17:29	23:56		
		6.6	2.0	5.7	2.7			5.6	1.9	5.5	3.8			5.4	1.2	6.5	2.7		
	M 26	1:20	8:00	13:58	19:52		Th	26	2:06	9:43	16:47		23:13	S	26	5:10	11:32	18:14	23:04
		6.2	2.2	5.5	3.1				5.3	1.7	5.7		3.6			6.3	0.4	7.3	8.0
	Tu 27	2:13	9:12	15:36	21:42			S	27	4:02	10:56		18:00		24:01	M	27	0:33	6:08	12:25	18:53
	5.9	2.0	5.4	3.5		5.6			1.0	6.3	8.0		1.8		7.3		0.3	8.1	
W 28	3:21	10:22	17:11	23:19	S	28	0:18		5:23	11:55	18:46	Tu	28	1:08	6:55		13:10	19:28	
	5.7	1.6	5.7	3.4			3.0	6.3	0.2	7.1			0.9	8.2	0.8	8.6			
Th	29	4:35	11:22	18:17	24:01	S	29	1:00	6:20	12:45	19:23	O	W 29	1:40	7:38	13:51	20:05		
		5.9	0.8	6.4	3.0			2.3	7.1	0.6	7.9			0.1	8.8	1.0	9.0		
	F 30	0:26	5:38	12:15	19:05		M	30	1:34	7:09	13:30		19:59	P	Th 30	2:15	8:20	14:33	20:40
		3.0	6.4	0.0	7.0				1.5	7.8	1.2		8.5			0.5	9.2	0.9	9.1
	S 31	1:15	6:31	13:04	19:45			O	Tu 31	2:08	7:51		14:13		20:34				
	2.5	6.9	0.7	7.8		0.8			8.4	1.5	8.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	2:50	9:00	15:12	21:12	M C	M	1	3:45	10:13	16:12	21:46	W C	W	1	4:13	10:50	16:43	22:05
	S	2	—0.8	9.3	—0.6	8.8		Tu	2	—1.3	8.4	1.7	7.3		Th	2	—1.0	7.8	2.5	6.7
	S	3	3:25	9:40	15:51	21:45		W	3	4:30	11:03	16:55	22:20		F	3	5:00	11:38	17:37	22:45
	M	4	—0.9	9.1	0.1	8.2		Th	4	—0.7	7.7	2.5	6.6		S	4	—0.2	7.2	2.9	6.1
	Tu	5	4:05	10:25	16:30	22:17		F	5	5:20	12:00	18:52	23:00		S	5	5:50	12:32	18:45	23:45
	W	6	—0.7	8.5	1.1	7.6		S	6	0.1	7.0	3.2	5.9		M	6	0.6	6.7	3.2	5.5
	Th	7	4:50	11:15	17:13	22:52		Th	7	6:17	13:12	19:32	23:00		W	7	6:44	13:32	20:10	23:55
	F	8	—0.3	7.7	2.1	6.8		F	8	0.8	6.2	3.6	2.9		Th	8	1.4	6.3	3.2	2.6
	S	9	5:42	12:13	18:05	23:31		S	9	0.06	7.24	14:44	21:46		F	9	1:10	7:48	14:35	21:35
	M	10	0.4	6.9	3.0	6.0		Tu	10	5.2	1.5	5.8	3.6		S	10	5.1	2.0	6.1	3.0
	Tu	11	6:43	13:36	19:52	25:00		W	11	2:13	8:47	16:10	22:57		Th	11	3:08	9:02	15:35	22:24
	W	12	1.0	6.0	3.8	2.8		Th	12	5.1	1.9	5.9	3.0		F	12	5.1	2.4	6.2	2.5
E A	S	13	0:38	8:02	15:57	22:50	E A	M	13	4:07	10:08	17:02	23:34	E A	Tu	13	4:38	10:26	16:29	23:06
	Th	14	5.3	1.6	5.5	3.7		S	14	5.5	1.9	6.3	2.4		W	14	5.5	2.4	6.2	2.0
	F	15	5.7	1.4	6.4	2.9		Tu	15	5:20	11:10	17:37	23:46		Th	15	5:35	11:25	17:13	23:42
	S	16	4:30	10:47	18:07	23:31		W	16	6.0	1.8	6.7	1.8		F	16	5.9	2.4	6.5	1.4
	M	17	0:22	5:38	11:47	18:34		Th	17	0:02	6:08	12:05	18:13		S	17	6:15	12:13	17:52	23:00
	Tu	18	2.4	6.4	1.0	6.9		W	18	1.7	6.5	1.4	7.0		Th	18	6.2	2.3	6.8	1.9
	W	19	0:48	6:24	12:31	18:57		Th	19	0:30	6:42	12:45	18:41		F	19	0:17	6:50	12:52	18:28
	Th	20	1.8	6.9	0.7	7.4		F	20	1.3	7.0	1.3	7.4		S	20	0.8	6.7	2.1	7.1
	F	21	1:10	7:02	13:10	19:21		M	21	0:54	7:10	13:17	19:07		W	21	0:52	7:23	13:27	19:00
	S	22	1.2	7.3	0.5	7.7		Tu	22	0.7	7.3	1.2	7.6		Th	22	0.2	7.2	2.0	7.2
	M	23	1:33	7:34	13:43	19:50		W	23	1:21	7:37	13:46	19:32		F	23	1:26	7:56	14:00	19:30
	Tu	24	0.7	7.7	0.4	7.9		Th	24	0.2	7.7	1.2	7.6		S	24	—0.4	7.7	1.9	7.2
S D	W	25	1:48	8:03	14:12	20:10	S D	M	25	1:48	8:07	14:14	19:55	S D	M	25	2:02	8:32	14:32	20:00
	Th	26	0.4	8.0	0.4	7.9		S	26	—0.3	8.0	1.3	7.6		W	26	—0.8	8.1	2.0	7.2
	F	27	2:22	8:28	14:37	20:30		Tu	27	2:21	8:41	14:43	20:17		Th	27	2:40	9:10	15:07	20:30
	S	28	0.0	8.1	0.5	7.9		W	28	—0.6	8.2	1.5	7.4		F	28	—1.0	8.3	2.0	7.2
	M	29	2:45	8:56	15:04	20:50		Th	29	2:53	9:17	15:12	20:42		S	29	3:18	9:51	15:42	21:05
	Tu	30	—0.1	8.2	0.8	7.7		W	30	—0.7	8.3	1.7	7.2		Th	30	—1.0	8.4	2.1	7.0
	W	31	3:12	9:28	15:29	21:10		Th	31	3:28	9:58	15:45	21:06		W	31	4:00	10:33	16:34	21:42
	Th	1	—0.2	8.2	1.3	7.4		F	1	—0.6	8.2	2.0	6.9		F	1	—0.8	8.3	2.2	6.8
	M	2	3:45	10:05	15:57	21:33		S	2	4:07	10:42	16:23	21:37		S	2	4:43	11:20	17:11	22:25
	Tu	3	—0.1	8.0	1.7	7.0		Th	3	—0.3	8.0	2.4	6.5		M	3	—0.4	8.0	2.3	6.5
	W	4	4:20	10:48	16:27	21:57		W	4	4:52	11:32	17:10	22:15		W	4	5:31	12:08	18:09	23:28
	Th	5	—0.2	7.7	2.2	6.6		Th	5	0.2	7.6	2.8	6.1		Th	5	0.2	7.6	2.5	6.1
E P	F	6	4:20	10:48	16:27	21:57	E P	F	6	5:43	12:30	18:17	23:12	E P	S	6	6:23	13:00	19:13	23:55
	S	7	0.2	7.7	2.2	6.6		M	7	0.7	7.1	3.1	5.6		S	7	0.8	7.2	2.5	6.1
	M	8	5:03	11:40	17:06	22:25		Tu	8	6:46	13:34	19:57	23:46		Th	8	0:47	7:25	13:57	20:24
	Tu	9	0.7	7.2	2.7	6.1		W	9	1.2	6.7	3.3	2.8		F	9	5.9	1.5	6.9	2.2
	W	10	5:57	12:43	18:04	23:05		Th	10	0:50	8:01	14:47	21:27		S	10	2:26	8:42	14:57	21:35
	Th	11	1.1	6.6	3.3	5.5		W	11	5.3	1.5	6.6	2.8		Th	11	5.9	2.0	6.6	1.7
	F	12	7:07	14:05	20:30	26:00		Th	12	2:58	9:18	15:54	22:27		W	12	3:52	10:05	16:04	22:38
	S	13	1.6	6.2	3.8	2.9		W	13	5.6	1.6	6.8	2.0		Th	13	6.1	2.2	6.7	1.1
	M	14	0:35	8:32	15:34	22:27		Th	14	4:28	10:33	16:49	23:14		F	14	5:10	11:20	17:00	23:33
	Tu	15	5.0	1.6	6.2	3.3		F	15	6.3	1.5	7.1	1.2		S	15	6.5	2.2	7.0	0.3
	W	16	8:25	9:56	16:44	23:18		M	16	5:28	11:40	17:40	23:22		Th	16	6:15	12:22	17:53	23:55
	Th	17	5.4	1.3	6.7	2.3		Tu	17	7.1	1.2	7.5	1.1		W	17	7.0	2.1	7.3	0.3
E C	M	18	4:52	11:03	17:35	23:57	E C	W	18	0:00	6:20	12:31	18:22	E C	S	18	0:23	7:10	13:15	18:40
	Tu	19	6.3	0.8	7.4	1.3		Th	19	0.3	7.7	0.9	7.9		Th	19	—0.5	7.5	2.0	7.6
	W	20	5:50	12:00	18:15	23:46		F	20	0:47	7:07	13:18	19:02		S	20	1:10	7:55	14:00	19:28
	Th	21	7.3	0.4	8.0	2.9		S	21	—0.6	8.3	0.9	8.2		Th	21	—1.2	7.9	1.9	7.9
	F	22	0:32	6:38	12:50	18:58		Th	22	1:25	7:53	14:00	19:40		W	22	1:53	8:38	14:39	20:03
	S	23	0.3	8.1	0.0	8.3		W	23	—1.3	8.6	1.0	8.2		Th	23	—1.6	8.1	1.8	7.9
	M	24	1:09	7:21	13:34	19:33		Th	24	2:05	8:37	14:40	20:17		F	24	2:35	9:17	15:15	20:45
	Tu	25	—0.4	8.8	—0.3	8.6		W	25	—1.7	8.7	1.3	8.1		S	25	—1.7	8.1	1.9	7.8
	W	26	1:45	8:00	14:14	20:07		Th	26	2:47	9:21	15:20	20:52		W	26	3:16	9:55	15:54	21:20
	Th	27	—1.1	9.2	—0.1	8.6		W	27	—1.7	8.5	1.7	7.8		Th	27	—1.5	8.1	2.0	7.4
	F	28	2:22	8:43	14:52	20:38		Th	28	3:30	10:05	16:00	21:28		F	28	3:58	10:33	16:30	21:58
	S	29	—1.4	9.2	0.3	8.4		F	29	—1.5	8.2	2.1	7.3		S	29	—1.1	7.9	2.1	7.1
M	30	3:04	9:28	15:32	21:12	M	30					Th	30	4:37	11:10	17:10	22:37			
Tu	31	—1.5	8.9	1.0	8.0	Tu	31					F	31	—0.4	7.6	2.3	6.6			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
N	F 1	4:20	10:24	17:16	23:08	N	M 1	5:51	11:15	18:35	23:31	N	M 1	4:26	9:45	17:01	23:31
		2.3	9.1	1.4	7.8			4.8	9.2	0.1	7.5			4.0	9.0	0.5	7.5
	S 2	5:19	11:09	18:11	23:09			1:02	6:55	12:06	19:31			5:29	10:40	18:01	23:09
		8.1	9.2	0.8	7.8			7.4	4.5	9.2	—0.1			4.5	8.8	0.5	7.8
	S 3	0:20	6:25	12:05	19:09			2:01	7:59	13:00	20:26			0:36	6:34	11:39	19:00
		7.8	3.8	9.3	0.1			7.5	4.6	9.2	—0.4			7.5	4.6	8.7	0.5
	M 4	1:24	7:26	12:40	20:00			2:52	8:59	13:51	21:18			1:38	7:40	12:38	19:59
		7.9	4.1	9.4	—0.4			7.8	4.5	9.3	—0.5			7.8	4.4	8.6	0.5
	Tu 5	2:21	8:24	13:28	20:50			3:36	9:48	14:50	22:01			2:20	8:35	13:40	20:50
		8.1	4.4	9.6	—0.8			8.3	4.1	9.3	—0.5			8.1	4.0	8.7	0.5
O	W 6	3:14	9:18	14:14	21:39	O	S 6	4:16	10:40	15:30	22:46	O	S 6	3:01	9:26	14:30	21:38
		8.0	4.5	9.7	—1.0			8.7	3.7	9.2	—0.4			8.4	3.5	8.8	0.5
	Th 7	4:01	10:11	15:00	22:24			4:55	11:25	16:20	23:27			3:41	10:12	15:20	22:21
		8.3	4.4	9.7	—1.1			9.0	3.3	9.1	0.0			8.8	2.9	8.9	0.6
	F 8	4:45	11:00	15:50	23:08			5:33	12:09	17:11	23:31			4:19	10:55	16:10	23:05
		8.7	4.2	9.6	—1.0			9.3	2.8	8.9	—0.1			9.2	2.3	9.0	0.8
	S 9	5:26	11:49	16:33	23:50			0:10	6:11	12:50	18:00			4:55	11:35	16:57	23:44
		8.9	3.9	9.3	—0.7			0.2	9.5	2.4	8.7			9.4	1.8	9.1	1.0
	S 10	6:05	12:36	17:21	23:59			0:49	6:49	13:31	18:49			5:32	12:15	17:46	23:59
		9.2	3.6	9.0	—0.8			0.8	9.7	2.0	8.6			9.6	1.4	9.2	—0.1
A	M 11	0:31	6:46	13:22	18:14	A	Th 11	1:30	7:28	14:14	19:40	A	Th 11	0:24	6:10	12:55	18:34
		—0.3	9.4	3.2	8.5			1.8	9.7	1.7	8.3			1.4	9.6	1.2	9.1
	Tu 12	1:13	7:26	14:10	19:05			2:11	8:09	14:58	20:40			1:05	6:47	13:36	19:25
		0.8	9.5	2.8	8.1			2.0	9.3	1.4	8.0			2.0	9.3	1.0	8.8
	W 13	1:56	8:08	14:55	20:00			2:54	8:50	15:45	21:40			1:49	7:28	14:19	20:18
		0.9	9.5	2.5	7.9			2.7	9.1	1.4	7.8			2.5	9.2	0.8	8.6
	Th 14	2:36	8:50	15:40	21:01			3:45	9:32	16:34	22:45			2:36	8:08	15:04	21:18
		1.5	9.5	2.2	7.6			8.3	8.9	1.2	7.7			3.1	9.0	0.7	8.3
	F 15	3:20	9:34	16:28	22:05			4:50	10:20	17:27	23:58			3:28	8:51	15:54	22:16
		2.3	9.2	1.8	7.4			3.9	8.8	0.8	7.7			3.7	8.7	0.7	8.1
C	S 16	4:13	10:16	17:18	23:13	C	Tu 16	5:54	11:11	18:25	24:59	C	Tu 16	4:26	9:41	16:50	23:20
		8.0	9.1	1.4	7.4			4.3	8.8	0.5	—0.1			4.2	8.5	0.7	8.0
	S 17	5:17	11:01	18:10	23:10			0:59	7:05	12:06	19:24			5:39	10:40	17:50	23:10
		3.6	9.0	1.0	7.8			7.9	4.6	8.8	0.1			4.5	8.4	0.6	7.8
	M 18	0:19	6:20	11:50	19:01			1:56	8:06	13:04	20:20			0:29	6:45	11:42	18:54
		7.6	4.0	9.0	0.5			8.1	4.6	9.0	—0.3			8.0	4.5	8.5	0.5
	Tu 19	1:22	7:26	12:37	19:54			2:48	9:04	13:58	21:14			1:29	7:47	12:46	19:56
		7.9	4.4	9.1	—0.1			8.3	4.3	9.2	—0.5			8.2	4.1	8.7	0.4
	W 20	2:19	8:26	13:30	20:45			3:34	9:55	14:52	22:05			2:16	8:40	13:46	20:51
		8.0	4.6	9.3	—0.6			8.6	3.8	9.5	—0.6			8.5	3.6	9.0	0.4
S	Th 21	3:11	9:24	14:15	21:34	S	S 21	4:18	10:40	15:47	22:51	S	S 21	3:00	9:23	14:45	21:43
		8.3	4.5	9.5	—1.0			9.1	3.3	9.7	—0.4			8.8	2.9	9.3	0.5
	F 22	4:00	10:17	15:05	22:21			4:55	11:21	16:38	23:38			3:39	10:09	15:39	22:31
		8.6	4.3	9.6	—1.3			9.3	2.6	9.8	—0.1			9.0	2.1	9.6	0.7
	S 23	4:45	11:06	15:50	23:10			5:35	12:05	17:31	24:31			4:16	10:53	16:36	23:19
		8.9	4.0	9.7	—1.3			9.5	2.0	9.7	—0.1			9.3	1.3	10.0	0.8
	S 24	5:29	11:51	16:45	23:55			0:28	6:12	12:50	18:24			4:56	11:38	17:21	22:55
		9.4	3.6	9.6	—1.0			0.4	9.6	1.4	9.6			9.5	0.7	10.0	—0.1
	M 25	6:10	12:38	17:39	24:59			1:06	6:51	13:35	19:19			0:01	5:32	12:20	18:13
		9.4	3.1	9.5	—0.9			1.1	9.6	1.0	9.2			1.3	9.5	0.2	9.7
E	Tu 26	0:42	6:50	13:22	18:34	E	F 26	1:50	7:31	14:21	20:15	E	F 26	0:46	6:11	13:06	19:05
		—0.4	9.5	2.5	9.2			1.9	9.3	0.7	8.7			2.0	9.5	—0.1	9.4
	W 27	1:26	7:30	14:09	19:30			2:39	8:12	15:11	21:16			1:33	6:51	13:51	19:59
		0.3	9.5	2.0	8.7			2.7	9.3	0.6	8.1			2.7	9.5	—0.1	8.8
	Th 28	2:14	8:12	14:55	20:31			3:30	8:57	16:05	22:22			2:21	7:31	14:40	20:55
		1.2	9.5	1.4	8.5			8.5	9.2	0.5	7.7			3.3	9.3	0.0	8.4
	F 29	3:00	8:55	15:46	21:37									3:10	8:18	15:31	21:54
		2.1	9.2	1.3	8.1									3.8	9.0	0.3	7.9
	S 30	3:51	9:39	16:40	22:47									4:08	9:09	16:26	22:56
		8.0	9.2	0.9	7.7									4.2	8.7	0.7	7.8
D	S 31	4:51	10:25	17:39	23:58							5:10	10:08	17:26	23:59		
		8.7	9.2	0.5	7.5							4.4	8.2	1.0	7.7		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	6:17 4.2	11:15 8.0	18:25 1.2	A	S	1	0:06 8.5	6:49 3.0	12:05 7.3	18:45 2.2	C	Tu	1	0:51 9.1	7:55 1.2	13:45 7.9	19:55 3.3													
	F	2	0:55 8.0	7:20 3.8	12:21 7.9	19:24 1.3	S	2	0:55 8.7	7:41 2.4	13:09 7.8	19:40 2.3		W	2	1:31 9.2	8:39 0.7	14:38 8.4	20:51 3.5													
	S	3	1:40 8.3	8:11 3.3	13:23 8.0	20:19 1.5	E	M	3	1:32 8.9	8:29 1.7	14:03 8.2		20:32 2.4	Th	3	2:12 9.3	9:20 0.0	15:26 8.9	21:45 3.6												
	S	4	2:21 8.7	8:58 2.6	14:19 8.3	21:08 1.5	Tu	4	2:15 9.1	9:11 1.3	14:55 8.7	21:21 2.5		○	F	4	2:54 9.4	10:01 -0.6	16:15 9.3	22:35 3.7												
	E	M	5	3:00 9.0	9:44 2.0	15:10 8.7	21:55 1.6	○	W	5	2:54 9.2	9:52 0.7		15:42 9.1	22:07 2.7	S	5	3:32 9.5	10:43 -1.0	17:01 9.5	23:25 3.9											
C	Tu	6	3:37 9.4	10:24 1.4	15:57 9.1	22:36 1.7	Th	6	3:31 9.4	10:31 0.1	16:30 9.4	22:55 2.8	S	S	6	4:16 9.4	11:25 -1.2	17:48 9.7	24:15 4.0													
	W	7	4:12 9.4	11:03 1.0	16:44 9.4	23:19 1.8	F	7	4:09 9.5	11:10 -0.4	17:16 9.6	23:43 3.1	M	7	0:13 4.0	5:00 9.3	12:08 -1.3	18:33 9.5														
	Th	8	4:50 9.4	11:41 0.6	17:30 9.5	S	8	4:49 9.4	11:51 -0.6	18:04 9.7	24:15 3.2	Tu	8	1:00 4.0	5:45 9.0	12:54 -1.0	19:15 9.6															
	F	9	0:02 2.2	5:28 9.4	12:20 0.2	18:18 9.5	S	9	0:31 3.4	5:28 9.3	12:31 -0.7	18:31 9.7	W	9	1:52 4.0	6:35 8.8	13:40 -0.6	20:05 9.3														
	S	10	0:47 2.5	6:06 9.2	13:00 0.1	19:08 9.4	S	M	10	1:21 3.7	6:11 9.0	13:16 -0.7	19:36 9.5	Th	10	2:44 3.8	7:30 8.5	14:31 0.0	20:54 9.3													
E	S	11	1:33 3.0	6:45 9.0	13:44 0.0	20:00 9.1	Tu	11	2:10 4.0	6:56 8.7	14:02 -0.4	20:27 9.3	○	F	11	3:36 3.4	8:33 8.1	15:25 0.7	21:43 9.2													
	M	12	2:23 3.6	7:28 8.7	14:30 0.1	20:50 8.8	W	12	3:03 4.1	7:48 8.3	14:53 0.0	21:21 9.1	E	S	12	4:28 2.8	9:44 7.8	16:20 1.6	22:35 9.1													
	Tu	13	3:18 4.0	8:14 8.4	15:20 0.3	21:48 8.6	○	Th	13	4:00 4.0	8:48 8.0	15:50 0.6	22:18 8.9	P	S	13	5:20 2.2	10:56 7.9	17:19 2.3	23:25 8.9												
	W	14	4:16 4.3	9:10 8.2	16:19 0.5	22:49 8.5	F	14	4:58 3.7	9:56 7.8	16:47 1.1	23:12 8.8	M	14	6:15 1.5	12:10 8.0	18:20 3.0	24:15 9.0														
	Th	15	5:19 4.2	10:15 8.0	17:19 0.8	23:50 8.4	S	15	5:51 3.1	11:11 7.8	17:51 1.7	24:05 8.8	Tu	15	0:10 9.0	7:10 0.9	19:06 8.2	25:05 9.1														
P	F	16	6:19 3.9	11:25 8.0	18:24 1.0	E	S	16	0:10 8.8	6:46 2.3	12:23 8.1	19:55 2.1	W	16	0:55 9.3	8:01 0.0	14:15 8.4	25:55 9.2														
	S	17	0:51 8.5	7:17 8.3	12:36 8.3	19:28 1.2	P	M	17	0:55 8.8	7:40 1.5	13:29 8.6	19:54 2.4	Th	17	1:36 9.5	8:51 -0.7	15:09 8.5	26:45 9.3													
	S	18	1:39 8.7	8:08 2.6	13:39 8.6	20:26 1.4	Tu	18	1:36 9.0	8:29 0.8	14:29 9.0	20:50 2.8	●	F	18	2:20 9.7	9:40 -1.2	16:00 8.6	27:35 9.4													
	M	19	2:19 9.0	8:56 1.8	14:37 9.2	21:19 1.4	●	W	19	2:16 9.3	9:16 0.0	15:21 9.3	21:43 3.1	N	S	19	3:05 9.8	10:25 -1.4	16:46 8.8	28:25 9.5												
	Tu	20	2:58 9.1	9:43 1.0	15:31 9.7	22:09 1.7	Th	20	2:56 9.5	10:01 -0.7	16:11 9.5	22:33 3.4	S	S	20	3:50 9.7	11:10 -1.4	17:31 9.1	29:15 9.6													
N	W	21	3:36 9.3	10:27 0.2	16:22 9.9	22:55 2.1	F	21	3:36 9.8	10:45 -1.2	17:00 9.5	23:20 3.6	M	21	4:36 9.5	11:54 -1.2	18:15 9.1	30:05 9.7														
	Th	22	4:14 9.5	11:10 -0.4	17:11 9.8	23:41 2.5	S	22	4:20 9.8	11:30 -1.3	17:48 9.4	24:05 3.7	Tu	22	0:39 4.0	5:20 9.3	12:36 -0.8	18:56 9.2														
	F	23	4:53 9.6	11:53 -0.8	18:01 9.7	N	S	23	0:08 3.8	5:00 9.7	12:15 -1.2	18:35 9.3	W	23	1:25 3.7	6:10 8.7	13:20 -0.2	19:45 9.3														
	S	24	0:29 3.0	5:32 9.5	12:38 -0.8	18:50 9.4	M	24	0:56 3.9	5:44 9.3	12:59 -0.8	19:21 9.1	Th	24	2:18 3.4	7:05 8.2	14:08 0.4	20:35 9.3														
	S	25	1:15 3.4	6:14 9.4	13:24 -0.6	19:40 9.0	Tu	25	1:45 3.9	6:30 8.9	13:46 -0.4	20:04 8.9	A	F	25	3:09 3.1	8:00 7.7	14:46 1.1	21:25 9.3													
D	M	26	2:03 3.7	6:58 9.1	14:10 -0.2	20:30 8.7	W	26	2:39 3.9	7:20 8.3	14:30 0.3	20:50 9.0	○	S	26	3:56 2.8	9:01 7.4	15:35 1.8	22:15 9.3													
	Tu	27	2:55 4.0	7:46 8.6	15:00 0.2	21:20 8.5	○	Th	27	3:35 3.7	8:18 7.8	15:16 1.0	21:37 8.9	S	S	27	4:46 2.3	10:10 7.2	16:21 2.5	23:05 9.1												
	W	28	3:54 4.1	8:40 8.0	15:50 0.8	22:13 8.4	F	28	4:28 3.4	9:24 7.3	16:08 1.6	22:27 8.9	M	28	5:36 1.9	11:16 7.2	17:21 3.1	23:55 9.1														
	Th	29	4:54 3.9	9:45 7.6	16:47 1.3	23:10 8.3	A	S	29	5:21 2.9	10:35 7.2	17:01 2.2	23:20 9.0	Tu	29	6:28 1.3	12:21 7.4	18:26 3.6	24:45 9.2													
	F	30	5:55 3.6	10:54 7.3	17:45 1.8	E	S	30	6:16 2.4	11:44 7.2	17:59 2.7	24:05 9.0	W	30	0:07 9.1	7:17 0.9	19:22 7.7	25:35 9.3														
						M	31	0:08 8.9	7:08 1.8	12:48 7.5	18:56 3.0																					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
u C	Th	1	0:49 9.1	8:04 0.3	14:19 8.2	20:28 4.2	O	S	1	1:54 9.1	9:11 -0.7	15:39 8.5	21:54 4.4	P E	W	1	8:26 9.5	10:30 -0.2	16:31 9.2	22:59 2.5												
	F	2	1:35 9.3	8:50 -0.3	15:09 8.5	21:23 4.3		M	2	2:45 9.3	10:01 -1.0	16:22 9.0	22:43 4.0		Th	2	4:19 9.7	11:18 0.0	17:10 9.5	23:41 1.9												
	S	3	2:20 9.4	9:36 -0.8	15:58 8.8	22:15 4.3		Tu	3	3:36 9.5	10:49 -1.0	17:05 9.3	23:30 3.6		F	3	5:11 9.8	12:01 0.5	17:47 9.5													
	S	4	3:05 9.4	10:20 -1.2	16:45 9.1	23:05 4.3		P W	4	4:26 9.6	11:35 -0.9	17:46 9.5			S	4	0:26 1.3	6:08 9.8	12:45 1.0	18:27 9.6												
	M	5	3:51 9.5	11:06 -1.4	17:31 9.5	23:58 4.1		Th	5	0:15 3.0	5:19 9.5	12:21 -0.5	18:26 9.5		S	5	1:10 0.9	6:56 9.5	13:30 1.7	19:06 9.3												
	Tu	6	4:39 9.5	11:51 -1.3	18:16 9.6			E F	6	0:59 2.5	6:13 9.3	13:06 0.2	19:06 9.5		M	6	1:56 0.6	7:51 9.1	14:19 2.5	19:48 9.3												
	W	7	0:40 3.8	5:29 9.8	12:38 -1.0	18:59 9.6		S	7	1:42 1.9	7:08 9.0	13:50 1.0	19:46 9.5		C Tu	7	2:45 0.4	8:51 8.6	15:06 3.3	20:30 9.1												
	Th	8	1:29 3.5	6:21 9.0	13:25 -0.4	19:41 9.5		C S	8	2:28 1.4	8:06 8.8	14:36 1.9	20:29 9.2		W	8	3:37 0.4	9:55 8.1	16:00 3.9	21:19 8.9												
	F	9	2:16 3.0	7:20 8.7	14:11 0.3	20:26 9.4		M	9	3:19 1.3	9:09 8.3	15:25 2.7	21:11 9.1		N Th	9	4:34 0.4	11:02 7.7	17:00 4.4	22:12 8.7												
	S	10	3:05 2.5	8:20 8.3	15:00 1.2	21:11 9.4		Tu	10	4:11 0.9	10:16 7.9	16:24 3.5	21:58 9.1		F	10	5:32 0.6	12:10 7.7	18:09 4.5	23:12 8.5												
	S	11	3:53 1.9	9:28 8.1	15:50 2.1	21:55 9.1		W	11	5:07 0.6	11:28 7.7	17:28 4.2	22:47 9.0		S	11	6:33 0.6	13:09 7.8	19:15 4.4													
	M	12	4:46 1.4	10:39 7.9	16:49 2.9	22:40 9.1		N Th	12	6:06 0.3	12:36 7.6	18:28 4.5	23:40 9.0		S	12	0:15 8.4	7:34 0.7	13:59 8.1	20:15 4.0												
Tu	13	5:41 1.0	11:50 7.8	17:55 3.7	23:28 9.2	F	13	7:05 0.0	13:39 7.6	19:33 4.7		M	13	1:16 8.5	8:29 0.7	14:40 8.4	21:06 3.4															
W	14	6:39 0.3	12:59 7.9	18:55 4.1		S	14	0:36 9.0	8:08 -0.2	14:30 7.9	20:34 4.5	● Tu	14	2:12 8.6	9:19 0.7	15:20 8.8	21:50 2.8															
Th	15	0:15 9.3	7:33 -0.2	13:59 8.0	19:56 4.5	S	15	1:30 9.1	8:56 -0.3	15:16 8.4	21:30 4.1	W	15	3:06 8.8	10:01 0.9	15:56 9.1	22:35 2.2															
F	16	1:02 9.5	8:27 -0.7	14:54 8.0	20:54 4.5	● M	16	2:22 9.1	9:45 -0.3	15:56 8.7	22:20 3.7	E Th	16	3:55 8.9	10:46 1.0	16:31 9.4	23:16 1.7															
S	17	1:51 9.7	9:18 -0.9	15:41 8.4	21:49 4.4	Tu	17	3:15 9.1	10:29 -0.2	16:35 9.0	23:08 3.2	F	17	4:43 9.1	11:28 1.3	17:09 9.6	23:56 1.3															
S	18	2:40 9.6	10:05 -1.1	16:25 8.7	22:40 4.2	W	18	4:06 9.1	11:11 0.0	17:11 9.3	23:46 2.7	S	18	5:30 9.2	12:08 1.6	17:46 9.5																
M	19	3:30 9.5	10:50 -1.1	17:09 8.9	23:30 3.8	Th	19	4:55 9.0	11:53 0.4	17:49 9.5		S	19	0:35 1.1	6:16 9.1	12:48 2.0	18:24 9.3															
Tu	20	4:16 9.3	11:35 -0.8	17:47 9.2		A E F	20	0:29 2.2	5:44 8.8	12:32 0.8	18:27 9.6	M	20	1:15 0.8	7:06 9.0	13:31 2.5	19:08 9.1															
W	21	0:15 3.5	5:06 9.0	12:16 -0.8	18:27 9.3	S	21	1:11 1.8	6:31 8.8	13:11 1.3	19:05 9.6	Tu	21	1:59 0.7	7:58 8.7	14:18 3.1	19:41 8.9															
Th	22	1:01 3.1	5:58 8.7	12:57 0.2	19:05 9.7	S	22	1:54 1.5	7:23 8.5	13:51 2.0	19:45 9.3	W	22	2:42 0.6	8:54 8.5	15:06 3.6	20:26 8.6															
F	23	1:46 2.7	6:49 8.3	13:37 0.7	19:45 9.6	M	23	2:35 1.3	8:18 8.2	14:36 2.7	20:25 9.0	D S Th	23	3:29 0.7	9:50 8.3	16:04 4.1	21:15 8.8															
S	24	2:32 2.3	7:41 8.1	14:19 1.4	20:25 9.6	D Tu	24	3:21 1.4	9:15 8.0	15:22 3.3	21:06 8.8	F	24	4:21 0.7	10:50 8.1	17:09 4.4	22:11 8.1															
S	25	3:19 2.1	8:29 7.8	15:00 2.2	21:06 9.3	W	25	4:10 1.2	10:20 7.7	16:25 3.8	21:53 8.6	S	25	5:22 0.8	11:56 8.1	18:20 4.4	23:15 8.1															
M	26	4:06 1.7	9:41 7.4	15:49 2.9	21:51 9.1	Th	26	5:01 1.0	11:26 7.7	17:27 4.3	22:45 8.5	S	26	6:25 0.7	13:00 8.3	19:21 4.1																
Tu	27	4:53 1.5	10:48 7.4	16:51 3.5	22:36 9.0	S F	27	5:59 0.7	12:31 7.7	18:39 4.6	23:41 8.5	M	27	0:21 8.3	7:26 0.7	13:50 8.5	20:11 8.6															
W	28	5:45 1.2	11:54 7.5	17:51 4.0	23:24 8.9	S	28	6:59 0.4	13:32 8.0	19:41 4.6		Tu	28	1:25 8.6	8:25 0.7	14:34 8.8	21:00 2.9															
Th	29	6:38 0.8	12:58 7.8	18:57 4.4		S	29	0:39 8.6	7:58 0.1	14:24 8.4	20:41 4.3	O W	29	2:24 9.0	9:19 0.8	15:14 9.1	21:46 2.1															
F	30	0:18 8.9	7:30 0.3	13:56 8.1	20:01 4.6	M	30	1:36 8.9	8:50 -0.2	15:10 8.7	21:31 3.8	P Th	30	3:19 9.4	10:10 1.0	15:51 9.3	22:30 1.3															
S	31	1:04 9.1	8:22 -0.2	14:50 8.5	21:01 4.5	O Tu	31	2:31 9.2	9:42 -0.3	15:51 9.0	22:15 3.2																					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 15:47 is 3.47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon	Day of—		Time and Height of High and Low Water.								Moon	Day of—		Time and Height of High and Low Water.								Moon	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
C A Z	F	1	4:11 9.9	10:55 1.0	16:30 9.5	23:14 0.7					N	M	1	5:41 9.8	12:08 3.2	17:10 9.6					W	1	6:16 9.3	12:35 4.0	17:24 9.5							
	S	2	5:03 10.1	11:41 1.4	17:09 9.4	23:58 0.1						Tu	2	0:15 -1.1	6:31 9.5	12:54 3.5	17:51 9.4					Th	2	0:39 -1.1	7:02 9.2	13:25 4.0	18:10 9.0					
	S	3	5:53 9.9	12:27 2.1	17:50 9.5							W	3	1:02 -0.9	7:21 9.2	13:43 3.8	18:40 9.2					F	3	1:28 -0.6	7:46 9.1	14:16 3.8	19:00 8.8					
	M	4	0:40 -0.3	6:45 9.6	13:12 2.6	18:25 9.4						Th	4	1:50 -0.5	8:10 8.8	14:35 4.0	19:25 8.7					S	4	2:12 0.0	8:30 9.1	15:10 3.6	19:58 7.9					
	Tu	5	1:29 -0.4	7:36 9.3	14:00 3.2	19:10 9.3					C	F	5	2:39 0.0	8:59 8.7	15:31 4.0	20:18 8.2					S	5	2:57 0.7	9:15 9.0	16:06 3.3	21:00 7.4					
	W	6	2:14 -0.2	8:32 8.8	14:50 3.7	19:51 8.9						S	6	3:30 0.6	9:51 8.5	16:30 3.8	21:20 7.7					M	6	3:46 1.4	10:05 9.0	16:59 2.8	22:10 7.2					
	Th	7	3:05 0.1	9:26 8.4	15:44 4.1	20:45 8.6						S	7	4:21 1.3	10:41 8.5	17:27 3.5	22:31 7.3					Tu	7	4:39 2.2	10:55 9.0	17:51 2.3	23:21 7.2					
	F	8	4:00 0.5	10:26 8.1	16:45 4.3	21:42 8.2						M	8	5:19 1.8	11:39 8.6	18:24 2.9	23:44 7.3					W	8	5:31 2.8	11:43 8.9	18:40 1.7						
	S	9	5:00 0.9	11:29 8.0	17:51 4.1	22:50 7.9						Tu	9	6:18 2.3	12:30 8.7	19:19 2.3					Th	9	6:28 7.3	12:31 8.3	19:23 9.1	24:11 1.1						
	S	10	5:59 1.3	12:28 8.1	18:51 3.7						A E	W	10	6:49 7.7	7:14 2.5	13:12 8.8	20:06 1.6					F	10	7:36 7.7	7:36 3.6	13:09 9.2	20:19 0.6					
	M	11	0:00 7.8	6:59 1.5	13:16 8.3	19:49 3.1						Th	11	1:48 8.0	8:08 2.7	13:53 9.1	20:52 1.2					S	11	2:20 8.1	8:33 3.8	13:50 9.3	21:01 0.1					
	Tu	12	1:04 7.9	7:55 1.7	13:59 8.6	20:37 2.5						F	12	2:40 -0.4	9:00 2.9	14:30 9.2	21:34 0.5					S	12	3:10 8.5	9:26 3.9	14:30 9.4	21:45 0.4					
E A ●	W	13	2:04 8.2	8:46 1.9	14:38 9.0	21:22 1.8				●	S	13	3:29 8.7	9:46 3.1	15:09 9.4	22:11 0.1					●	M	13	3:59 8.9	10:17 4.0	15:15 9.4	22:25 -0.9					
	Th	14	2:55 8.7	9:34 1.9	15:14 9.2	22:03 1.2					S	14	4:14 9.0	10:36 3.2	15:55 9.5	22:51 -0.4					S	Tu	14	4:45 9.2	11:05 4.1	15:57 9.4	23:06 -1.1					
	F	15	3:41 9.0	10:18 2.0	15:51 9.3	22:46 0.9					M	15	5:01 9.3	11:24 3.4	16:30 9.4	23:31 -0.3					W	15	5:31 9.4	11:54 4.1	16:40 9.3	23:50 -1.2						
	S	16	4:40 9.2	11:01 2.2	16:30 9.4	23:22 0.4					Tu	16	5:46 9.4	12:12 3.6	17:08 9.3					Th	16	6:16 9.6	12:41 4.1	17:25 9.1								
	S	17	5:15 9.4	11:44 2.5	17:06 9.4					S	W	17	0:13 -0.8	6:33 9.5	13:01 3.8	17:56 9.0					F	17	0:33 -1.0	6:59 9.7	13:30 4.0	18:19 8.8						
	M	18	0:02 0.1	6:01 9.5	12:29 2.8	17:43 9.2					Th	18	0:56 -0.8	7:18 9.5	13:50 4.0	18:35 8.7					S	18	1:21 -0.6	7:41 9.5	14:21 3.7	19:09 8.5						
	Tu	19	0:41 -0.1	6:49 9.4	13:16 3.2	18:30 9.0					F	19	1:40 -0.5	8:05 9.4	14:42 4.1	19:25 8.3					S	19	2:09 -0.1	8:28 9.4	15:11 3.3	20:08 7.9						
	W	20	1:24 -0.1	7:40 9.2	14:05 3.6	19:01 8.7					S	20	2:30 -0.1	8:58 9.1	15:38 4.0	20:23 8.0					M	20	2:58 0.6	9:16 9.3	16:01 2.8	21:00 7.9						
	Th	21	2:09 0.0	8:25 9.0	14:59 4.0	19:50 8.3				D	S	21	3:26 0.4	9:50 9.0	16:34 3.7	21:29 7.7					E	Tu	21	3:52 1.4	10:09 9.2	16:52 2.2	22:05 7.9					
	F	22	2:56 0.2	9:21 8.8	15:54 4.2	20:45 8.1					M	22	4:18 1.0	10:41 8.9	17:25 3.1	22:43 7.6					W	22	4:45 2.3	10:57 9.0	17:46 1.5	23:09 7.9						
	S	23	3:50 0.5	10:20 8.6	16:56 4.2	21:47 7.8					Tu	23	5:20 1.7	11:40 8.9	18:20 2.4	23:56 8.0					P	Th	23	5:48 3.0	11:41 9.0	18:41 0.9						
S	24	4:47 0.9	11:19 8.6	17:54 3.8	22:58 7.8				E	W	24	6:21 2.2	12:26 8.8	19:12 1.6						F	24	6:49 8.1	12:27 3.6	19:27 9.2	23:35 0.2							
M	25	5:53 1.2	12:19 8.6	18:50 3.3					P	Th	25	1:04 8.4	7:23 2.6	13:09 9.0	20:04 0.9					S	25	1:51 8.3	7:58 4.0	13:11 9.4	20:25 -0.5							
Tu	26	0:10 8.0	6:58 1.5	13:10 8.7	19:42 2.5					F	26	2:04 8.7	8:21 3.0	13:50 9.3	20:51 0.0					S	26	2:48 8.6	8:53 4.2	13:57 9.5	21:36 -1.1							
W	27	1:15 8.4	7:56 1.8	13:53 9.0	20:31 1.8				O	S	27	3:00 9.1	9:20 3.3	14:31 9.5	21:39 -0.8					N	M	27	3:40 8.5	9:48 4.3	14:46 9.8	22:01 -1.5						
Th	28	2:15 9.1	8:52 1.8	14:32 9.0	21:19 1.0					S	28	3:54 9.2	10:11 3.6	15:12 9.7	22:23 -1.3						Tu	28	4:28 8.8	10:40 4.3	15:29 9.7	22:50 -1.5						
F	29	3:10 9.5	9:44 2.0	15:11 9.3	22:04 0.2					M	29	4:40 9.1	11:00 3.8	15:58 9.8	23:10 -1.5						W	29	5:12 8.8	11:29 4.2	16:15 9.6	23:35 -1.3						
S	30	4:02 9.8	10:31 2.4	15:51 9.5	22:47 -0.5				N	Tu	30	5:30 9.0	11:47 4.0	16:45 9.7	23:35 -1.5						Th	30	5:57 9.0	12:15 4.0	17:08 9.3							
S	31	4:51 9.8	11:20 2.8	16:29 9.6	23:31 -1.0																F	31	0:19 -0.9	6:38 9.3	13:05 3.7	17:53 8.8						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
	F	1	2:18 1.0	8:05 6.3	14:40 1.9	20:34 6.4		M	1	8:50 2.0	9:31 7.1	17:13 1.4	22:07 5.7		M	1	1:44 2.0	7:42 6.7	15:08 1.7	20:37 5.1
	S	2	3:21 1.3	9:14 6.9	16:18 1.7	21:37 6.3	N	Tu	2	5:16 2.0	10:30 7.6	18:20 0.8	22:55 5.7	N	Tu	2	3:08 2.4	9:10 6.6	16:47 1.5	21:51 5.2
	S	3	4:37 1.4	10:15 7.5	17:35 1.2	22:28 6.4		W	3	6:20 1.5	11:18 8.2	19:11 0.2	23:35 5.9		W	3	4:50 2.3	10:13 7.0	18:00 1.0	22:48 5.4
	M	4	5:43 1.3	10:50 8.1	18:35 0.4	23:11 6.4		Th	4	7:11 1.2	12:00 8.6	19:53 -0.3		Th	4	6:08 1.9	11:02 7.6	18:50 0.3	23:24 5.8	
	Tu	5	6:38 0.9	11:34 8.7	19:23 0.0	23:47 6.5	○	F	5	0:12 6.3	7:54 0.7	12:37 9.0	20:32 -0.7		F	5	6:57 1.4	11:44 8.1	19:32 -0.1	23:58 6.3
N	W	6	7:27 0.9	12:14 9.2	20:08 -0.5			S	6	0:50 6.6	8:36 0.5	13:15 9.2	21:10 -0.9		S	6	7:39 1.0	12:20 8.6	20:08 -0.6	
○	Th	7	8:28 6.6	8:10 0.9	12:54 9.4	20:50 -0.8		S	7	1:28 6.9	9:10 0.5	13:52 9.3	21:47 -0.9	○	S	7	8:36 6.9	8:18 0.8	12:55 8.9	20:45 -0.7
	F	8	1:06 6.6	8:47 0.8	13:32 9.5	21:30 -0.9	A	M	8	2:05 7.1	9:50 0.5	14:27 9.3	22:22 -0.7		M	8	1:10 7.3	8:52 0.4	13:29 9.1	21:20 -0.7
	S	9	1:48 6.7	9:28 0.9	14:08 9.5	22:08 -0.8		Tu	9	2:44 7.2	10:27 0.6	15:06 9.0	22:55 -0.3	E	Tu	9	1:44 7.8	9:30 0.1	14:05 9.1	21:52 -0.6
	S	10	2:27 6.6	10:08 0.9	14:50 9.2	22:48 -0.5	E	W	10	3:24 7.2	11:03 0.8	15:47 8.6	23:30 0.1		W	10	2:20 8.0	10:02 0.3	14:40 9.0	22:25 -0.2
A	M	11	3:06 6.6	10:50 1.1	15:30 8.9	23:25 -0.2		Th	11	4:08 7.2	11:40 1.2	16:26 8.0	23:59 0.6		Th	11	2:57 8.1	10:37 0.4	15:17 8.5	22:56 0.4
	Tu	12	3:48 6.4	11:28 1.5	16:11 8.3			F	12	4:52 7.1	12:12 1.6	17:12 7.3			F	12	3:38 8.2	11:10 0.7	15:58 8.0	23:25 0.8
	W	13	0:08 0.8	4:39 6.2	12:08 1.9	16:52 7.7	○	S	13	0:27 1.2	5:42 6.8	12:37 2.0	18:04 6.6		S	13	4:18 8.0	11:45 1.1	16:40 7.3	23:52 1.4
E	Th	14	0:38 0.8	5:30 6.1	12:45 2.2	17:48 7.0		S	14	0:50 1.7	6:47 6.6	13:20 2.1	19:15 5.9		S	14	5:05 7.6	12:16 1.5	17:28 6.5	
○	F	15	1:10 1.2	6:36 6.0	13:18 2.4	18:58 6.4		M	15	1:25 2.1	7:58 6.6	14:45 2.2	20:35 5.6	○	M	15	0:14 1.9	6:00 7.2	12:56 1.8	18:35 5.6
	S	16	1:45 1.6	7:51 6.3	14:13 2.5	20:05 5.9		Tu	16	2:30 2.5	9:12 6.9	16:49 1.9	21:47 5.6	S	Tu	16	0:32 2.5	7:12 6.7	14:13 1.9	20:05 5.2
	S	17	2:37 1.9	8:54 6.6	15:50 2.3	21:13 5.9	S	W	17	4:41 2.5	10:12 7.5	18:08 1.1	23:41 5.5		W	17	1:40 2.8	8:35 5.8	16:10 1.7	21:27 5.3
	M	18	3:58 2.1	9:50 7.2	17:26 1.8	22:12 6.2		Th	18	6:08 1.9	11:03 8.4	19:01 0.3	23:27 6.4		Th	18	3:44 2.8	9:46 7.8	17:40 1.0	22:26 5.8
	Tu	19	5:28 2.0	10:38 7.9	18:28 1.1	22:57 6.4		F	19	7:00 1.5	11:50 9.1	19:48 -0.4			F	19	5:42 2.4	10:43 8.0	18:37 0.8	23:13 6.5
S	W	20	6:30 1.7	11:26 8.7	19:20 0.3	23:43 6.7	●	S	20	0:12 7.0	7:46 0.9	12:36 9.8	20:24 -1.0		S	20	6:40 1.5	11:33 8.8	19:21 -0.8	23:54 7.2
	Th	21	7:20 1.4	12:08 9.4	20:03 -0.4		P	S	21	0:53 7.5	8:27 0.5	13:18 10.2	21:05 -1.3	P	S	21	7:27 0.6	12:15 9.5	20:01 -0.8	
●	F	22	0:27 7.0	8:02 1.1	12:50 10.0	20:45 -0.9		M	22	1:35 7.9	9:07 -0.1	14:01 10.3	21:44 -1.4	●	M	22	0:35 8.0	8:10 -0.2	12:59 9.9	20:38 -1.1
P	S	23	1:08 7.2	8:42 0.8	13:34 10.3	21:27 -1.3	E	Tu	23	2:17 8.2	9:47 -0.4	14:43 10.0	22:22 -1.2	E	Tu	23	1:14 8.5	8:50 -0.6	13:40 9.9	21:16 -1.1
	S	24	1:51 7.4	9:24 0.6	14:17 10.3	22:07 -1.3		W	24	2:57 8.3	10:31 -0.5	15:25 9.5	23:01 -0.7		W	24	1:54 9.0	9:30 -0.9	14:20 9.6	21:53 -0.9
	M	25	2:35 7.4	10:05 0.3	15:02 10.1	22:48 -1.1		Th	25	3:41 8.3	11:13 -0.1	16:10 8.6	23:40 -0.2		Th	25	2:34 9.2	10:12 -0.8	15:02 9.0	22:32 -0.5
	Tu	26	3:20 7.4	10:47 0.3	15:47 9.6	23:30 -0.8		F	26	4:29 8.1	11:59 0.3	16:57 7.7			F	26	3:17 9.2	10:57 -0.6	15:42 8.2	23:12 0.2
E	W	27	4:08 7.2	11:32 0.5	16:33 8.8		○	S	27	0:20 0.6	5:19 7.6	12:48 0.9	17:51 6.6		S	27	4:02 8.8	11:42 -0.1	16:28 7.2	23:53 0.8
○	Th	28	0:12 -0.2	5:00 7.1	12:20 0.8	17:25 7.8		S	28	1:02 1.3	6:22 7.1	13:45 1.4	19:05 5.6		S	28	4:47 8.2	12:32 0.6	17:17 6.2	
	F	29	0:53 0.5	5:57 6.9	13:10 1.3	18:30 6.8								○	M	29	0:38 1.7	5:44 7.5	13:28 1.2	18:24 5.3
	S	30	1:35 1.1	7:10 6.7	14:08 1.7	19:51 6.1									Tu	30	1:22 2.3	6:59 6.7	14:37 1.5	20:06 4.8
	S	31	2:25 1.7	8:30 6.8	15:37 1.7	21:08 5.7									W	31	2:27 2.6	8:35 6.4	16:07 1.5	21:40 2.9

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ○, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.	Time				Height					W.	Mo.	Time				Height					W.	Mo.	Time				Height			
A	Th	1	4:17	9:52	17:28	22:30	2.5	6.6	1.1	5.5	A	S	1	5:01	10:10	17:38	22:43	2.2	6.7	0.9	6.4		Tu	1	6:15	10:52	18:27	23:18	1.5	7.0	1.0	8.0
	F	2	5:37	10:40	18:21	23:08	2.1	7.1	0.6	6.1		S	2	6:02	10:48	18:27	23:15	1.6	7.1	0.6	7.1		W	2	7:02	11:31	19:10	23:52	0.9	7.3	0.9	8.7
	S	3	6:33	11:20	19:02	23:41	1.4	7.6	0.2	6.8	E	M	3	6:48	11:25	19:05	23:45	1.4	7.6	0.3	7.7		Th	3	7:42	12:06	19:48		7.42	12:06	19:48	
	S	4	7:17	11:55	19:40		0.7	8.1	-0.2			Tu	4	7:28	12:00	19:44		0.6	8.0	0.2		○	F	4	8:31	8:22	12:45	20:26	9.2	0.0	7.5	1.0
	M	5	8:12	7:56	12:30	20:15	7.3	0.4	8.5	-0.4	○	W	5	8:20	8:07	12:33	20:17	8.4	0.3	8.1	0.3		S	5	1:06	9:00	13:25	21:08	9.6	-0.2	7.5	1.1
E	Tu	6	9:47	8:28	13:03	21:48	7.9	0.2	8.7	-0.7		Th	6	9:53	8:43	13:10	20:52	9.0	0.0	8.1	0.6	S	S	6	1:48	9:43	14:06	21:40	9.8	-0.4	7.2	1.2
	W	7	1:20	9:07	13:38	21:22	8.4	0.1	8.8	-0.3		F	7	1:29	9:20	13:48	21:25	1:29	9:20	13:48	21:25	M	7	2:30	10:25	14:50	22:18	9.8	-0.5	6.9	1.3	
	Th	8	1:55	9:40	14:13	21:52	8.7	0.2	8.6	0.3		S	8	2:06	9:57	14:28	21:58	2:06	9:57	14:28	21:58	Tu	8	3:12	11:08	15:32	23:05	9.6	-0.3	6.5	1.5	
	F	9	2:30	10:17	14:50	22:27	9.0	0.2	8.2	0.7		S	9	2:47	10:37	15:07	22:35	2:47	10:37	15:07	22:35	W	9	3:58	11:55	16:26	23:53	9.1	0.0	6.1	1.8	
	S	10	3:08	10:54	15:30	22:57	9.0	0.5	7.7	1.1	S	M	10	3:28	11:18	15:48	23:15	3:28	11:18	15:48	23:15	Th	10	4:48	12:40	17:26		8.4	0.3	5.8		
S	S	11	3:51	11:27	16:15	23:28	8.7	0.8	7.0	1.7		Tu	11	4:15	12:08	16:43	23:57	4:15	12:08	16:43	23:57	○	F	11	0:37	5:50	13:28	18:42	1.9	7.7	0.5	5.7
	M	12	4:35	12:08	17:04	23:58	8.2	1.1	6.2	2.2		W	12	5:07	12:52	17:43		5:07	12:52	17:43		E	S	12	1:26	7:05	14:20	20:07	2.2	7.1	0.9	6.0
	Tu	13	7:25	12:53	18:06		7.6	1.4	5.4		○	Th	13	8:45	6:10	13:47	19:15	8:45	6:10	13:47	19:15	P	S	13	2:25	8:27	15:26	21:12	2.1	6.8	1.1	6.7
	W	14	9:28	6:37	13:58	19:42	7.6	1.4	5.4			F	14	1:40	7:33	14:57	20:43	1:40	7:33	14:57	20:43	M	14	3:57	9:32	16:37	22:02	1.8	6.9	1.0	7.4	
	Th	15	1:30	8:02	15:35	21:08	2.9	6.8	1.4	5.3		S	15	2:55	8:57	16:17	21:45	2:55	8:57	16:17	21:45	Tu	15	5:18	10:23	17:39	22:47	1.3	7.1	0.9	8.2	
P	F	16	3:17	9:23	17:03	22:08	2.8	7.1	0.9	6.0	E	S	16	4:33	9:58	17:24	22:20	4:33	9:58	17:24	22:20	W	16	6:23	11:08	18:33	23:30	0.7	7.2	0.7	8.8	
	S	17	5:13	10:23	18:05	22:54	2.1	7.7	0.4	6.9	P	M	17	5:48	10:48	18:17	23:10	5:48	10:48	18:17	23:10	Th	17	7:14	11:47	19:20		0.0	7.2	0.7		
	S	18	6:15	11:12	18:52	23:33	1.4	8.4	-0.1	7.6		Tu	18	6:43	11:33	19:02	23:52	6:43	11:33	19:02	23:52	●	F	18	0:11	8:01	12:27	20:01	9.4	-0.5	7.1	0.7
	M	19	7:05	11:54	19:32		0.4	8.7	-0.5		●	W	19	7:31	12:11	19:42		7:31	12:11	19:42		N	S	19	0:52	8:47	13:06	20:45	9.7	-0.8	7.1	0.7
	Tu	20	8:12	7:48	12:36	20:12	8.5	-0.3	9.2	-0.6		Th	20	8:30	8:15	12:50	20:23	8:30	8:15	12:50	20:23	S	20	1:32	9:30	13:45	21:28	9.8	-1.0	6.8	0.8	
N	W	21	9:52	8:32	13:15	20:48	9.2	-1.0	9.0	-0.6		F	21	1:08	8:59	13:28	21:03	1:08	8:59	13:28	21:03	M	21	2:18	10:13	14:28	22:10	9.7	-0.9	6.6	1.0	
	Th	22	1:32	9:14	13:55	21:27	9.7	-1.1	8.7	-0.4		S	22	1:52	9:42	14:08	21:43	1:52	9:42	14:08	21:43	Tu	22	2:55	10:55	15:12	22:53	9.4	-0.6	6.3	1.0	
	F	23	2:10	9:55	14:35	22:15	9.8	-1.1	8.2	-0.1	N	S	23	2:32	10:28	14:48	22:27	2:32	10:28	14:48	22:27	W	23	3:38	11:37	15:57	23:40	8.9	-0.2	6.0	1.4	
	S	24	2:54	10:41	15:15	22:47	9.7	-0.8	7.5	0.5		M	24	3:15	11:13	15:36	23:12	3:15	11:13	15:36	23:12	Th	24	4:25	12:20	16:52		8.2	0.1	5.8		
	S	25	3:37	11:28	15:57	23:30	9.2	-0.3	6.7	1.1		Tu	25	4:00	12:00	16:25		4:00	12:00	16:25		A	F	25	0:25	5:13	13:04	17:55	1.2	7.6	0.6	5.6
D	M	26	4:21	12:16	16:50		8.5	0.3	5.9		W	26	0:00	4:48	12:47	17:22	0:00	4:48	12:47	17:22	○	S	26	1:13	6:12	13:43	19:10	1.13	6.1	1.0	5.7	
	Tu	27	0:17	5:13	13:12	17:50	1.8	7.7	0.9	5.1	○	Th	27	0:50	5:45	13:39	18:41	0:50	5:45	13:39	18:41	S	27	2:00	7:25	14:27	20:25	2.4	6.8	1.4	6.1	
	W	28	1:10	6:20	14:09	19:30	2.3	6.9	1.2	4.8		F	28	1:46	7:02	14:30	20:20	1:46	7:02	14:30	20:20	M	28	2:55	8:32	15:27	21:20	2.5	6.1	1.6	6.6	
	Th	29	2:10	7:50	15:20	21:15	2.7	6.3	1.3	5.2	A	S	29	2:47	8:24	15:34	21:25	2:47	8:24	15:34	21:25	Tu	29	4:21	9:30	16:37	22:05	2.3	6.1	1.7	7.2	
	F	30	3:36	9:18	16:38	22:05	2.6	6.3	1.2	5.8	E	S	30	4:08	9:25	16:42	22:05	4:08	9:25	16:42	22:05	W	30	5:35	10:19	17:42	22:48	5.35	10:19	17:42	22:48	
											M	31	5:20	10:10	17:40	22:42	5:20	10:10	17:40	22:42						1.9	6.4	1.6	7.9			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.					
		W. Mo.										W. Mo.										W. Mo.							
α	Th	1	6:33 1.3	11:03 6.8	18:36 1.5	23:30 8.6	○	S	1	7:45 0.0	12:05 6.7	19:42 1.2	E	P	W	1	0:58 10.0	8:43 —1.1	13:12 8.0	20:48 —0.1									
	F	2	7:20 0.6	11:42 6.8	19:20 1.3	M		2	0:28 9.6	8:27 —0.6	12:48 7.1	20:26 0.9		Th	2	1:39 10.2	9:22 —1.3	13:53 8.3	21:28 —0.3										
	S	3	0:07 9.2	8:05 0.1	12:23 7.0	Tu		3	1:12 10.0	9:07 —0.9	13:30 7.3	21:05 0.7		F	3	2:20 10.0	10:01 —1.1	14:35 8.5	22:08 —0.5										
	S	4	0:48 9.7	8:44 —0.4	13:04 7.1	P		W	4	1:57 10.2	9:48 —1.2	14:12 7.5		21:46 0.4	S	4	3:02 9.6	10:40 —0.8	15:18 8.6	22:53 —0.3									
	M	5	1:29 10.0	9:28 —0.7	13:46 7.1	Th		5	2:40 10.0	10:28 —1.1	14:57 7.6	22:29 0.1		S	5	3:47 8.8	11:20 —0.2	16:25 8.3	23:38 0.1										
P	Tu	6	2:12 10.1	10:10 —0.8	14:32 7.0	E	F	6	3:26 9.6	11:10 —0.8	15:43 7.5	23:13 0.3	M	6	4:38 7.9	11:59 0.6	16:53 7.9	C	Tu	7	0:27 0.6	5:23 6.8	12:42 1.2	17:49 7.4					
	W	7	2:57 9.9	10:52 —0.8	15:17 6.8	S	7	4:12 9.0	11:50 —0.3	16:34 7.4	23:58 0.6	W	8	1:22 1.2	6:32 5.8	13:27 1.8	19:05 6.9												
	Th	8	3:48 9.5	11:35 —0.6	16:05 6.6	○	S	8	5:00 8.1	12:30 0.3	17:23 7.2	Th	9	2:30 1.4	8:07 5.2	14:26 2.3	20:37 6.7												
	F	9	4:32 3.8	12:18 —0.2	17:00 6.5	M	9	0:45 0.9	5:58 7.2	13:13 0.9	18:30 7.0	F	10	4:05 1.4	9:32 5.2	16:10 2.3	21:52 7.0												
	S	10	0:20 1.3	5:27 8.1	13:02 0.3	18:05 6.4	Tu	10	1:38 1.4	7:13 6.3	13:56 1.5	19:50 6.9	S	11	5:30 1.0	10:26 5.5	17:33 1.9		22:44 7.5										
E	M	12	2:02 1.7	8:52 6.7	14:35 1.2	20:33 6.9	N	Th	12	4:29 1.4	9:40 5.7	16:38 2.0	22:07 7.4	S	12	6:27 0.4	11:10 5.9	18:32 1.8	23:27 8.1										
	Tu	13	3:20 1.7	9:02 6.4	15:47 1.4	21:33 7.3	F	13	5:50 0.9	10:33 5.7	17:50 1.8	22:57 8.1	M	13	7:10 0.0	11:43 6.4	19:19 0.7	●	Tu	14	0:05 8.5	7:50 —0.4	12:19 6.9	19:58 0.3					
	W	14	4:52 1.3	10:00 6.4	17:03 1.5	22:24 7.9	S	14	6:45 0.3	11:18 5.9	18:47 1.1	23:40 8.5	W	15	0:39 8.8	8:25 —0.7	12:52 7.4		20:37 0.2										
	Th	15	6:06 0.8	10:48 6.3	18:08 1.4	23:10 8.6	S	15	7:37 —0.2	11:55 6.2	19:38 0.8	Th	16	1:13 9.0	9:00 —0.7	13:26 7.9	21:13 0.1												
	F	16	7:02 0.2	11:32 6.4	19:02 1.1	23:56 9.0	●	M	16	0:22 8.9	8:12 —0.6	12:33 6.5	20:15 0.5	F	17	1:45 9.0	9:34 —0.6		14:02 8.2	21:48 0.1									
S	17	7:50 —0.3	12:10 6.5	19:47 1.0	Tu	17	1:00 9.2	8:52 —0.8	13:10 6.9	20:58 0.4	S	18	2:22 8.9	10:07 —0.2	14:38 8.3	22:24 0.4													
N	M	19	1:15 9.5	9:13 —0.8	13:28 6.7	21:10 0.6	Th	19	2:12 9.2	10:05 —0.7	14:27 7.4	22:13 0.6	S	19	2:58 8.5	10:38 0.5	15:16 8.4	23:00 0.7											
	Tu	20	1:56 9.5	9:55 —0.9	14:07 6.7	21:53 0.7	A	F	20	2:48 9.0	10:40 —0.5	15:05 7.5	22:50 0.7	M	20	3:35 7.9	11:11 0.8	15:58 8.1	23:33 1.0										
	W	21	2:35 9.3	10:33 —0.7	14:50 6.7	22:35 0.9	S	21	3:28 8.6	11:15 0.0	15:47 7.5	23:27 0.9	Tu	21	4:18 7.2	11:43 1.5	16:42 7.7	D	Th	23	0:50 1.8	6:08 5.6	12:33 2.5	18:40 6.7					
	Th	22	3:16 9.0	11:11 —0.5	15:32 6.6	23:15 0.9	S	22	4:08 8.0	11:47 0.6	16:32 7.3	W	22	0:10 1.5	5:05 6.5	12:12 2.0	17:33 7.3												
	F	23	3:58 8.5	11:47 0.0	16:20 6.5	23:56 1.3	M	23	0:05 1.4	4:50 7.4	12:20 1.1	17:19 7.0	Th	23	0:50 1.8	6:08 5.6	12:33 2.5		18:40 6.7										
S	24	4:40 7.9	12:27 0.5	17:10 6.4	D	Tu	24	0:38 1.8	5:40 6.6	12:47 1.6	18:17 6.8	F	24	1:50 1.9	7:35 5.1	13:15 2.8	20:03 6.6												
M	26	0:38 1.8	5:28 7.2	13:00 0.9	18:08 6.3	W	25	1:13 2.1	6:45 5.9	13:08 2.1	19:32 6.6	S	25	3:32 1.7	9:03 5.2	15:03 2.9	21:22 7.0												
A	Th	26	1:12 2.1	6:26 6.5	13:30 1.4	19:18 6.4	Th	26	2:17 2.1	8:08 5.4	14:00 2.5	20:45 6.7	S	26	5:08 1.2	10:07 5.6	17:12 2.3	22:22 7.7	○	M	27	6:10 0.5	10:53 6.4	18:15 1.7	23:10 8.5				
	Tu	27	1:57 2.3	7:38 6.0	14:10 1.8	20:27 6.6	F	27	4:06 2.0	9:23 5.5	15:42 2.6	21:48 7.2	W	28	6:55 —0.1	11:33 7.2	19:08 0.7	23:56 9.2											
	W	28	3:12 2.3	8:45 5.8	15:16 2.1	21:27 6.9	S	28	5:39 1.3	10:22 5.8	17:38 2.2	22:43 8.0	Tu	28	7:37 —0.6	12:13 8.0	19:47 0.1	P		Th	30	0:36 9.7	8:17 —1.0	12:52 8.7	20:29 —0.5				
	Th	29	4:54 2.0	9:48 5.9	16:49 2.2	22:18 7.6	S	29	6:37 0.6	11:10 6.3	18:37 1.8	23:30 8.8	W	29	7:37 —0.6	12:13 8.0	19:47 0.1			20:29 —0.5									
	F	30	6:05 1.4	10:40 6.2	18:06 2.0	23:05 8.3	M	30	7:23 —0.1	11:50 6.8	19:24 1.1	Th	30	0:36 9.7	8:17 —1.0	12:52 8.7	20:29 —0.5												
S	31	7:00 0.7	11:27 6.4	18:58 1.6	23:48 9.0	○	T	31	0:15 9.5	8:04 —0.7	12:32 7.4	20:06 0.6																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	1:18 9.8	8:52 -1.0	13:32 9.2	21:10 -0.9	N	M	1	2:13 8.4	9:45 0.1	14:33 10.0	22:20 -1.0	W	1	2:28 7.2	10:02 0.7	14:52 9.8	22:50 -0.8													
	S	2	1:57 9.6	9:32 -0.7	14:10 9.5	21:50 -0.9		Tu	2	2:54 7.6	10:25 0.4	15:15 9.6	23:07 -0.6		Th	2	3:13 6.6	10:52 1.0	15:40 9.2	23:26 -0.7												
	S	3	2:37 9.0	10:10 -0.4	14:53 9.5	22:33 -0.7		W	3	3:35 6.8	11:10 1.1	16:00 8.9	23:57 0.0		F	3	4:02 6.0	11:37 1.4	16:27 8.4													
	M	4	3:18 8.2	10:50 0.1	15:37 9.1	23:21 -0.3		Th	4	4:23 6.0	11:55 1.6	16:50 8.1			S	4	0:27 0.2	4:55 5.5	12:28 1.9	17:20 7.5												
	Tu	5	4:04 7.5	11:32 0.7	16:24 8.5			F	5	0:50 0.6	5:22 5.3	12:50 2.1	17:50 7.2		S	5	1:17 0.7	6:02 5.2	13:24 2.2	18:28 6.7												
	W	6	0:12 0.3	4:52 6.4	12:18 1.5	17:17 7.8		S	6	1:48 1.0	6:50 4.8	13:54 2.5	19:16 6.5		M	6	2:10 1.1	7:42 5.4	14:24 2.4	19:50 6.2												
	Th	7	1:08 0.9	5:53 5.5	13:07 2.1	18:25 7.5		S	7	2:55 1.2	8:57 5.2	15:04 2.5	20:33 6.2		Tu	7	3:08 1.3	9:06 5.9	15:40 2.3	21:39 6.1												
	F	8	2:13 1.2	7:34 4.9	14:15 2.5	19:58 6.5		M	8	4:08 1.1	9:58 5.8	16:32 2.1	21:58 6.6		W	8	4:17 1.3	9:53 6.5	16:56 2.0	22:00 6.2												
	S	9	3:35 1.3	9:27 5.1	15:43 2.4	21:32 6.6		Tu	9	5:13 0.8	10:32 6.4	17:40 1.7	22:37 7.0		Th	9	5:17 1.2	10:30 7.1	17:58 1.6	22:38 6.6												
	S	10	4:57 1.0	10:20 5.6	17:08 2.1	22:27 7.0		W	10	6:04 0.6	11:03 7.1	18:30 1.1	23:13 7.4		F	10	6:08 1.1	11:05 7.8	18:46 1.0	23:18 7.1												
	M	11	5:56 0.6	10:56 6.2	18:10 1.5	23:08 7.6		Th	11	6:46 0.3	11:36 7.8	19:12 0.5	23:48 7.7		S	11	6:53 0.8	11:40 8.5	19:28 0.5	23:52 7.2												
Tu	12	6:42 0.2	11:30 6.9	18:58 0.8	23:32 8.0	F	12	7:25 0.3	12:06 8.5	19:51 0.2		S	12	7:33 0.9	12:17 9.0	20:08 0.1																
W	13	7:20 -0.2	12:00 7.4	19:35 0.4		S	13	8:00 7.9	8:00 0.3	12:38 9.1	20:27 0.0	M	13	8:30 7.4	8:10 1.0	12:54 9.5	20:48 -0.2															
Th	14	8:15 8.3	7:54 -0.3	12:30 8.0	20:15 0.0	S	14	8:53 7.9	8:34 0.6	13:10 9.4	21:04 -0.1	Tu	14	1:08 7.3	8:47 1.1	13:32 9.8	21:27 -0.4															
F	15	9:45 8.6	8:30 -0.4	13:03 8.5	20:30 0.0	M	15	1:30 7.9	9:08 0.9	13:48 9.6	21:42 -0.1	W	15	1:48 7.2	9:24 1.3	14:10 9.9	22:07 -0.5															
S	16	1:20 8.6	9:05 0.0	13:37 9.0	21:25 0.0	Tu	16	2:07 7.6	9:40 1.1	14:27 9.6	22:20 0.0	Th	16	2:28 7.0	10:00 1.3	14:52 9.7	22:40 -0.4															
S	17	1:55 8.4	9:34 0.5	14:12 9.2	22:00 0.1	W	17	2:45 7.2	10:17 1.6	15:10 9.4	23:02 0.2	F	17	3:12 6.6	10:40 1.5	15:37 9.3	23:22 -0.1															
M	18	2:30 8.0	10:06 0.8	14:50 9.1	22:37 0.5	Th	18	3:28 6.7	10:57 1.8	15:50 8.9	23:45 0.5	S	18	4:00 6.3	11:27 1.8	16:23 8.7																
Tu	19	3:10 7.6	10:35 1.2	15:30 8.8	23:17 0.7	F	19	4:13 6.2	11:41 2.2	16:40 8.2		S	19	0:16 0.2	4:46 6.1	12:13 1.8	17:16 8.0															
W	20	3:53 7.0	11:14 1.7	16:13 8.4	23:55 1.0	S	20	0:31 0.8	5:13 6.6	12:25 2.5	17:35 7.5	M	20	1:00 0.6	5:57 5.8	12:58 2.0	18:22 7.3															
Th	21	4:38 6.2	11:45 2.3	17:00 7.7		S	21	1:22 1.1	6:27 6.2	13:15 2.6	18:54 7.0	Tu	21	1:48 0.9	7:17 5.9	13:48 2.2	19:45 6.8															
F	22	0:42 1.4	5:35 5.5	12:25 2.7	18:02 7.1	M	22	2:23 1.2	8:08 5.4	14:20 2.6	20:22 6.8	W	22	2:44 1.2	8:37 6.4	15:06 2.0	21:00 6.5															
S	23	1:36 1.6	7:00 4.9	13:13 3.0	19:25 6.7	Tu	23	3:39 1.0	9:20 6.1	15:55 2.2	21:32 7.1	Th	23	3:56 1.3	9:36 7.1	16:43 1.6	22:00 6.8															
S	24	2:57 1.4	8:42 5.1	14:45 2.9	20:54 6.9	W	24	4:50 0.8	10:08 7.1	17:17 1.5	22:36 7.5	F	24	5:07 1.2	10:25 7.9	17:57 0.9	22:48 7.1															
M	25	4:27 1.0	9:48 5.9	15:36 2.3	22:00 7.4	Th	25	5:48 0.6	10:52 8.0	18:17 0.7	23:12 8.0	S	25	6:06 0.9	11:10 8.7	18:54 0.2	23:32 7.0															
Tu	26	5:35 0.6	10:35 6.7	17:47 1.5	22:50 8.1	F	26	6:37 0.3	11:32 8.9	19:08 -0.1	23:50 8.1	S	26	6:57 0.8	11:52 9.4	19:42 -0.4																
W	27	6:25 0.1	11:16 7.7	18:40 0.7	23:35 8.8	S	27	7:18 0.1	12:12 9.6	19:54 -0.6		M	27	0:10 7.1	7:43 0.6	12:33 9.8	20:27 -0.8															
Th	28	7:08 -0.3	11:52 8.6	19:27 -0.2		S	28	0:32 8.1	8:00 0.2	12:50 10.0	20:40 -1.0	Tu	28	0:51 7.1	8:25 0.7	13:16 10.0	21:10 -1.1															
F	29	0:14 9.0	7:47 -0.4	12:30 9.4	20:10 -0.7	M	29	1:10 7.9	8:42 0.2	13:30 10.3	21:22 -1.2	W	29	1:30 7.0	9:08 0.7	13:57 10.0	21:50 -1.1															
S	30	0:54 9.0	8:26 -0.5	13:10 9.9	20:52 -1.1	Tu	30	1:48 7.6	9:22 0.4	14:13 10.2	22:07 -1.1	Th	30	2:10 6.8	9:48 0.7	14:38 9.8	22:25 -0.9															
S	31	1:33 8.8	9:05 -0.3	13:52 10.1	21:35 -1.0							F	31	2:54 6.6	10:33 0.8	15:22 9.3	23:18 -0.6															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian W.: 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
	F	1	1:05 1.5	7:25 12.6	13:38 2.5	19:46 13.0		M	1	2:35 1.3	9:10 12.2	15:15 3.9	21:14 12.4		M	1	1:00 1.3	7:30 12.3	13:35 4.0	19:38 12.0									
	S	2	2:06 1.4	8:35 12.5	14:42 8.0	20:46 13.0	N	Tu	2	3:35 1.1	10:17 12.3	16:25 3.8	22:16 12.6	N	Tu	2	2:04 1.7	8:40 11.8	14:50 4.3	20:47 11.8									
	S	3	3:06 1.0	9:40 12.7	15:45 8.2	21:45 13.1		W	3	4:32 0.8	11:15 12.7	17:22 3.5	23:14 13.0		W	3	3:08 1.9	9:52 11.8	16:04 4.2	21:57 12.0									
	M	4	4:06 0.5	10:40 13.1	16:44 8.1	22:40 13.4		Th	4	5:25 0.5	12:05 13.2	18:12 3.0			Th	4	4:10 1.7	10:52 12.2	17:05 3.6	22:58 12.5									
	Tu	5	4:55 0.0	11:32 13.5	17:36 2.9	23:30 13.7	○	F	5	0:05 13.3	6:13 0.1	12:48 13.8	18:56 2.5		F	5	5:06 1.4	11:40 12.9	17:54 2.9	23:52 13.1									
○	W	6	5:45 -0.5	12:20 14.0	18:25 2.6			S	6	0:52 13.7	7:00 -0.2	13:28 14.3	19:36 2.0		S	6	5:55 0.9	12:24 13.5	18:35 2.2										
	Th	7	0:18 13.8	6:30 -0.8	13:04 14.3	19:10 2.4		S	7	1:35 13.8	7:42 -0.2	14:03 14.6	20:13 1.6	○	S	7	0:35 13.6	6:40 0.5	13:00 14.1	19:10 1.5									
	F	8	1:05 13.9	7:15 -0.8	13:45 14.5	19:50 2.2	A	M	8	2:15 13.8	8:20 0.0	14:40 14.7	20:50 1.4		M	8	1:16 14.0	7:20 0.3	13:35 14.5	19:45 0.9									
	S	9	1:50 13.8	7:58 -0.7	14:25 14.6	20:32 2.1		Tu	9	2:55 13.7	9:00 0.8	15:15 14.6	21:25 1.2	E	Tu	9	1:55 14.2	7:57 0.3	14:10 14.7	20:20 0.5									
	S	10	2:30 13.5	8:40 -0.3	15:05 14.6	21:12 2.1	E	W	10	3:30 13.5	9:37 0.8	15:50 14.2	22:03 1.1		W	10	2:30 14.3	8:34 0.5	14:45 14.5	20:55 0.4									
A	M	11	3:12 13.2	9:22 0.2	15:43 14.4	21:54 2.1		Th	11	4:12 13.4	10:15 1.4	16:28 13.7	22:40 1.2		Th	11	3:08 14.4	9:08 0.6	15:20 14.3	21:30 0.4									
	Tu	12	3:56 12.8	10:04 0.9	16:25 14.0	22:37 2.1		F	12	4:50 13.1	10:55 1.9	17:06 13.2	23:24 1.4		F	12	3:42 14.2	9:45 1.2	15:55 13.8	22:08 0.5									
	W	13	4:40 12.4	10:46 1.7	17:05 13.4	23:20 2.2	○	S	13	5:35 12.7	11:40 2.7	17:50 12.6			S	13	4:20 13.9	10:25 1.9	16:30 13.2	22:50 0.8									
E	Th	14	5:28 12.2	11:30 2.5	17:46 12.9			S	14	0:10 1.6	6:29 12.4	12:30 3.4	18:40 12.1		S	14	5:06 13.4	11:06 2.6	17:14 12.6	23:36 1.2									
○	F	15	0:05 2.2	6:15 11.9	12:20 3.0	18:34 12.5		M	15	1:06 1.7	7:30 12.1	13:28 4.0	19:37 11.7	○	M	15	6:00 12.9	11:56 3.4	18:00 11.9										
	S	16	0:55 2.1	7:10 11.8	13:14 3.5	19:25 12.2		Tu	16	2:06 1.7	8:38 12.1	14:40 4.2	20:43 11.8	S	Tu	16	0:34 1.5	7:00 12.4	12:58 4.0	19:02 11.5									
	S	17	1:50 2.0	8:12 11.8	14:14 3.8	20:23 12.1	S	W	17	3:10 1.3	9:45 12.5	15:50 4.0	21:50 12.3		W	17	1:34 1.8	8:08 12.1	14:10 4.3	20:15 11.5									
	M	18	2:46 1.6	9:15 12.2	15:15 3.8	21:20 12.3		Th	18	4:10 0.7	10:46 13.1	16:54 3.3	22:52 13.0		Th	18	2:40 1.7	9:20 12.3	15:27 3.9	21:30 12.1									
	Tu	19	3:48 1.0	10:15 12.8	16:16 3.6	22:20 12.7		F	19	5:08 0.0	11:40 14.0	17:48 2.3	23:50 14.0		F	19	3:46 1.2	10:22 13.0	16:34 3.0	22:38 13.1									
S	W	20	4:36 0.2	11:10 13.5	17:14 3.1	23:12 13.2	●	S	20	6:02 -0.8	12:30 14.8	18:38 1.3			S	20	4:50 0.6	11:18 13.9	17:28 1.8	23:35 14.1									
	Th	21	5:30 -0.6	12:02 14.3	18:05 2.5		P	S	21	0:40 14.8	6:54 -1.3	13:15 15.5	19:25 0.4	P	S	21	5:44 -0.2	12:05 14.8	18:15 0.5										
●	F	22	0:05 13.8	6:20 -1.3	12:50 15.1	18:56 1.8		M	22	1:30 15.4	7:42 -1.6	14:00 16.0	20:07 -0.4	●	M	22	0:25 15.1	6:36 -0.7	12:50 15.5	19:00 -0.5									
P	S	23	0:54 14.4	7:08 -1.7	13:36 15.6	19:40 1.2	E	Tu	23	2:18 15.8	8:27 -1.5	14:42 16.1	20:52 -0.8	E	Tu	23	1:17 15.8	7:24 -1.1	13:35 16.0	19:45 -1.1									
	S	24	1:42 14.8	7:56 -1.8	14:22 15.9	20:27 0.7		W	24	3:06 15.8	9:14 -1.0	15:27 15.9	21:38 -0.9		W	24	1:56 16.2	8:08 -1.2	14:18 15.9	20:27 -1.5									
	M	25	2:30 14.9	8:45 -1.6	15:05 15.9	21:13 0.4		Th	25	3:50 15.6	10:00 -0.4	16:10 15.2	22:23 -0.5		Th	25	2:40 16.4	8:50 -0.7	15:00 15.6	21:10 -1.5									
	Tu	26	3:20 14.9	9:32 -1.0	15:50 15.6	22:00 0.3		F	26	4:37 14.9	10:45 0.7	16:55 14.4	23:10 0.0		F	26	3:27 16.0	9:35 0.1	15:40 15.0	21:56 -1.1									
E	W	27	4:10 14.5	10:20 -0.1	16:35 15.1	22:50 0.4	D	S	27	5:30 14.0	11:34 1.9	17:40 13.5			S	27	4:15 15.2	10:20 1.1	16:24 14.2	22:40 -0.4									
D	Th	28	5:00 14.2	11:12 0.7	17:24 14.3	23:38 0.6		S	28	0:02 0.6	6:28 13.1	12:30 3.1	18:36 12.6		S	28	5:06 14.2	11:08 2.2	17:12 13.2	23:32 0.5									
	F	29	5:55 13.5	12:05 1.7	18:14 13.5									N	M	29	6:00 13.2	12:02 3.3	18:07 12.3										
	S	30	0:34 0.9	6:56 12.9	13:00 2.8	19:10 12.9									Tu	30	0:30 1.4	7:00 12.3	13:10 4.0	19:13 11.6									
	S	31	1:34 1.2	8:00 12.4	14:05 3.5	20:10 12.5									W	31	1:34 2.1	8:10 11.8	14:25 4.3	20:25 11.4									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.						
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.				
	W. Mo.					W. Mo.					W. Mo.					
	Th 1	2.38	9.17	15.38	21.38	A	S 1	3.12	9.35	15.52	22.05	Tu 1	4.16	10.24	16.28	
	F 2	2.5	11.8	4.1	11.6		S 2	2.9	12.2	5.1	11.8	W 2	5.04	12.9	1.3	
		3.45	10.20	16.37	22.40		S 3	4.40	10.25	16.38	22.55		5.04	11.08	17.18	
A	S 3	2.5	12.2	3.4	12.2		S 4	2.7	12.7	2.4	12.5		2.7	13.2	0.5	
		4.94	11.08	17.22	23.30	E	M 3	3.00	11.10	17.20	23.38	Th 3	5.45	11.50	18.00	
	S 4	2.1	12.8	2.6	12.8			2.4	13.1	1.5	13.3		2.4	13.5	—0.3	
		5.34	11.50	18.02			Tu 4	5.40	11.50	18.00			0.27	6.28	12.30	
		1.7	13.3	1.7				1.9	13.6	0.7			14.3	2.2	13.7	
E	M 5	0.14	6.18	12.30	18.40		W 5	0.06	6.20	12.28	18.38		S 5	1.10	7.10	13.08
		13.4	1.3	13.7	4.1			11.0	1.6	13.9	0.0			14.8	2.1	13.7
	Tu 6	0.52	6.54	13.05	19.14		Th 6	0.55	7.00	13.03	19.14		S 6	1.54	7.53	13.50
		14.0	1.0	14.2	0.5			11.5	1.5	14.0	—0.5			15.1	2.0	13.7
	W 7	1.28	7.30	13.40	19.48		F 7	1.34	7.36	13.38	19.50		M 7	2.38	8.37	14.34
		14.1	0.6	14.1	0.0			14.9	1.4	14.0	—0.9			15.2	2.0	13.4
	Th 8	2.00	8.04	14.14	20.22		S 8	2.14	8.15	14.14	20.32	Tu 8	3.25	9.25	15.20	
		14.8	0.7	14.3	—0.3			15.1	1.3	13.8	—0.9			15.0	2.1	13.1
	F 9	2.37	8.40	14.45	21.00		S 9	2.56	8.55	14.54	21.15	W 9	4.12	10.16	16.14	
		14.2	1.0	14.1	—0.3			15.1	1.8	13.4	—0.6			14.7	2.3	12.8
	S 10	3.20	9.18	15.20	21.38	S	M 10	3.40	9.30	15.35	22.00	Th 10	5.04	11.10	17.32	
		14.8	1.4	13.6	—0.7			14.8	2.2	13.0	—0.1			14.2	2.4	12.6
	S 11	4.00	10.00	16.00	22.21		Tu 11	4.28	10.30	16.25	22.50		F 11	5.55	12.07	18.15
		14.4	2.0	13.1	0.3			14.3	2.7	12.5	0.5			13.8	2.3	12.4
	M 12	4.45	10.45	16.40	23.10		W 12	5.20	11.25	17.20	23.46	E	S 12	0.28	6.50	13.05
		14.0	2.7	12.4	0.8			13.8	3.1	12.0	1.2			1.6	13.3	2.1
	Tu 13	5.38	11.35	17.35		Ɔ	Th 13	6.18	12.26	18.30			S 13	1.30	7.47	14.05
		13.3	3.3	11.9				13.2	3.3	11.8				2.2	13.1	4.7
	W 14	0.05	6.36	12.40	18.42		F 14	0.48	7.29	13.32	19.42		M 14	2.35	8.45	15.02
		1.1	12.8	3.8	11.5			1.8	12.9	3.1	11.9			2.2	13.2	1.1
	Th 15	1.10	7.45	13.54	19.58		S 15	1.58	8.20	14.35	20.47	Tu 15	3.36	9.40	16.00	
		1.8	12.5	3.8	11.6			2.1	12.9	2.5	12.4			2.3	13.5	0.4
	F 16	2.17	8.50	15.05	21.12	E	S 16	3.00	9.18	15.33	21.53	W 16	4.32	10.35	16.50	
		1.9	12.6	3.3	12.2			2.1	13.0	1.7	13.2			2.3	13.8	—0.4
	S 17	3.25	9.53	16.05	22.18	E	M 17	4.04	10.16	16.27	22.50	Th 17	5.25	11.25	17.28	
		1.7	13.1	2.2	13.2			3.7	13.7	0.7	14.2			2.2	14.1	—1.0
	S 18	4.28	10.16	17.00	23.10		Tu 18	5.06	11.06	17.18	23.42	●	F 18	0.10	6.04	12.12
		1.2	13.8	1.1	14.1			1.3	14.3	—0.4	14.9			14.5	2.1	14.3
F	M 19	5.22	11.35	17.35		●	W 19	5.48	11.54	18.04		S	S 19	1.00	7.02	13.00
		0.6	14.4	0.1				1.1	14.7	—1.2				14.8	2.0	14.3
●	Tu 20	0.02	6.14	12.25	18.34		Th 20	0.30	6.35	12.38	18.50		S 20	1.44	7.50	13.45
		13.0	—0.1	13.1	—1.0			15.4	1.0	14.9	—1.8			15.0	2.0	14.1
	W 21	0.50	7.00	13.07	19.16		F 21	1.16	7.20	13.22	19.34	M 21	2.28	8.33	14.32	
		16.0	—0.3	15.5	—1.7			15.7	1.0	14.9	—1.9			14.9	2.1	13.7
	Th 22	1.36	7.44	13.50	20.00		S 22	2.00	8.05	14.05	20.20	Tu 22	3.12	9.20	15.20	
		16.3	—0.2	15.5	—2.9			15.7	1.3	14.6	—1.7			14.7	2.2	13.2
	F 23	2.20	8.26	14.30	20.40	S	S 23	2.45	8.50	14.50	21.05	W 23	4.00	10.06	16.06	
		16.2	0.2	15.2	—1.9			15.4	1.6	14.0	—1.1			14.3	2.4	12.7
	S 24	3.07	9.10	15.12	21.27		M 24	3.32	9.38	15.35	21.54	Th 24	4.43	10.58	17.00	
		15.8	0.9	14.6	—1.3			14.9	2.1	13.4	—0.3			13.9	2.6	12.2
S	S 25	3.52	9.55	15.58	22.15		Tu 25	4.20	10.27	16.26	22.42	A	F 25	5.30	11.44	17.32
		15.2	1.6	13.7	—0.5			14.3	2.4	12.6	0.6			13.4	2.7	11.8
	M 26	4.42	10.45	16.45	23.05		W 26	5.10	11.22	17.22	23.35	●	S 26	6.15	12.32	18.45
		14.3	2.5	12.9	0.5			13.7	3.1	11.9	1.6			12.9	2.7	11.6
●	Tu 27	5.35	11.42	17.42		●	Th 27	6.00	12.20	18.22		S	S 27	0.50	7.05	13.25
		13.4	3.3	12.0				13.1	3.5	11.4				3.0	12.5	2.5
	W 28	0.00	6.38	12.46	18.50		F 28	0.32	6.56	13.15	19.28	M 28	1.40	7.53	14.15	
		1.5	12.6	3.8	11.4			2.4	12.6	3.4	11.3			3.4	12.4	2.2
	Th 29	1.32	7.34	13.35	20.00	A	S 29	1.32	7.30	14.10	20.25	Tu 29	2.36	8.45	15.06	
		2.3	12.1	4.0	11.2			3.0	12.2	3.2	11.4			3.5	12.4	1.8
	F 30	2.10	8.35	14.57	21.08	E	S 30	2.30	8.45	15.04	21.24	W 30	3.30	9.36	15.55	
		2.8	12.1	3.7	11.4			3.3	12.3	2.7	11.8			3.5	12.5	1.2
							M 31	3.25	9.35	15.52	22.15					
								3.2	12.5	2.0	12.3					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15.47 is 3.47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
S C	Th	1	4:24 3.4	10:26 12.8	16:45 0.4	23:14 13.3	O	S	1	5:40 2.9	11:40 13.4	17:56 —0.7	P	W	1	0:50 15.2	6:58 0.6	13:05 15.2	19:17 —1.2													
	F	2	5:14 3.1	11:15 13.1	17:30 —0.2	23:30 ...		M	2	0:28 14.5	6:30 2.2	12:35 14.0		18:45 —1.2	Th	2	1:35 15.7	7:42 —0.2	13:54 15.6	20:04 —1.2												
	S	3	0:00 14.0	6:02 2.8	12:00 13.4	18:18 —0.4		Tu	3	1:15 15.1	7:18 1.5	13:20 14.4		19:34 —1.4	F	3	2:18 15.9	8:27 —0.8	14:40 15.8	20:48 —1.0												
	S	4	0:47 14.6	6:50 2.4	12:46 13.7	19:04 —1.2		W	4	2:00 15.5	8:05 0.9	14:10 14.8		20:20 —1.3	S	4	3:00 15.8	9:10 —0.9	15:25 15.7	21:35 —0.3												
	M	5	1:35 15.0	7:35 2.1	13:34 13.8	19:50 —1.3		Th	5	2:45 15.6	8:50 0.5	15:00 14.8		21:10 —0.9	S	5	3:45 15.2	9:56 —0.7	16:13 15.1	22:20 0.6												
P	Tu	6	2:20 15.3	8:22 1.8	14:22 13.9	20:38 —1.2	E	F	6	3:26 15.5	9:37 0.2	15:46 14.7	21:58 —0.2	M	6	4:28 14.5	10:44 —0.3	17:05 14.3	23:10 1.7													
	W	7	3:06 15.3	9:10 1.5	15:10 13.8	21:27 —0.8	S	7	4:12 15.1	10:25 0.1	16:36 14.5	22:48 0.5	C	Tu	7	5:15 13.6	11:35 0.3	18:00 13.0	...													
	Th	8	3:52 15.1	10:00 1.4	16:03 13.7	22:18 —0.1	C	S	8	5:00 14.5	11:12 0.3	17:30 14.0	23:38 1.4	W	8	6:05 2.8	12:25 12.8	19:04 0.9	23:55 12.6													
	F	9	4:40 14.8	10:50 1.3	17:00 13.4	23:10 0.7	M	9	5:48 13.8	12:05 0.6	18:26 13.3	...	N	Th	9	7:00 3.7	13:15 12.2	20:10 1.5	24:40 12.1													
	S	10	5:28 14.2	11:43 1.3	17:54 13.3	...	Tu	10	6:34 2.4	12:58 13.2	19:12 0.9	25:18 12.7	F	10	7:50 4.1	14:05 11.9	21:05 1.7	25:45 12.0														
E C	S	11	0:05 1.6	6:20 13.7	12:36 1.2	18:54 13.0	W	11	1:35 2.8	7:40 12.7	14:05 1.0	20:38 12.4	S	11	3:37 4.0	9:30 12.1	15:45 1.6	22:27 12.4														
	M	12	1:04 2.1	7:15 13.3	13:35 1.1	19:57 12.8	N	Th	12	2:44 2.7	8:48 12.6	15:06 1.0	21:48 12.4	S	12	4:40 3.4	10:35 12.6	16:43 1.4	23:18 13.0													
	Tu	13	2:05 2.7	8:10 13.1	14:33 0.9	21:04 12.8	F	13	3:50 3.8	9:45 12.6	16:06 0.8	22:47 12.7	M	13	5:30 2.7	11:30 13.2	17:35 0.9	...														
	W	14	3:06 3.1	9:12 13.1	15:30 0.5	22:05 13.0	S	14	4:52 3.5	10:48 13.0	17:00 0.5	23:40 13.2	●	Tu	14	6:20 13.6	12:16 2.0	18:22 13.7	18:22 0.6													
	Th	15	4:08 3.2	10:06 13.2	16:25 0.1	23:05 13.3	S	15	5:46 3.0	11:42 13.4	17:52 0.2	...	W	15	7:10 14.1	13:15 1.3	19:00 13.0	19:04 0.4														
N	F	16	5:05 3.1	11:02 13.5	17:20 —0.3	23:55 13.7	●	M	16	6:42 13.7	12:38 2.4	18:33 13.7	—0.1	E	Th	16	8:00 14.5	14:05 0.7	20:10 14.3	20:15 0.5												
	S	17	6:00 2.8	11:54 13.7	18:08 —0.6	...	Tu	17	7:38 14.1	13:32 1.9	19:17 14.0	19:24 —0.2	F	17	9:00 14.5	15:00 0.5	21:05 14.5	21:05 0.5														
	S	18	0:45 14.1	6:50 2.5	12:44 13.9	18:55 —0.8	W	18	1:45 14.5	7:54 1.5	13:58 14.0	20:06 0.0	S	18	2:28 14.4	8:37 0.3	14:50 14.4	20:50 0.8														
	M	19	1:26 14.4	7:34 2.2	13:32 13.9	19:40 —0.7	Th	19	2:24 14.6	8:32 1.2	14:40 13.9	20:44 0.3	S	19	3:00 14.1	9:12 0.3	15:25 14.2	21:25 1.25														
	Tu	20	2:10 14.6	8:16 0.2	14:16 13.8	20:25 —0.4	A	F	20	3:00 14.5	9:10 1.0	15:18 13.7	21:22 0.9	M	20	3:34 13.6	9:50 0.6	16:04 13.8	22:05 2.1													
A	W	21	2:50 14.6	9:00 1.9	15:02 13.5	21:10 0.1	S	21	3:34 14.1	9:47 1.0	15:57 13.5	22:00 1.3	Tu	21	4:10 13.0	10:30 0.9	16:47 13.3	22:45 2.8														
	Th	22	3:30 14.5	9:40 1.8	15:45 13.1	21:55 0.7	S	22	4:12 13.7	10:25 1.1	16:35 13.1	22:40 2.0	W	22	4:50 12.4	11:15 1.3	17:40 12.8	23:35 3.5														
	F	23	4:10 14.2	10:24 1.8	16:30 12.8	22:34 1.5	M	23	4:50 13.1	11:06 1.4	17:20 12.8	23:22 2.7	Th	23	5:38 11.7	12:10 1.7	18:37 12.3	...														
	S	24	4:50 13.6	11:05 1.9	17:15 12.5	23:18 2.2	D	Tu	24	5:32 12.6	11:54 1.6	18:10 12.3	...	F	24	6:36 4.1	13:07 1.1	18:08 2.0	19:44 12.1													
	S	25	5:32 13.1	11:50 1.9	18:00 12.2	...	W	25	6:10 3.4	12:40 12.0	19:00 1.8	20:14 12.0	S	25	7:00 4.8	13:10 1.1	19:10 2.0	20:52 12.3														
D	M	26	0:05 2.7	6:15 12.7	12:38 2.0	18:52 11.9	Th	26	1:08 4.0	7:15 11.6	13:12 1.8	20:14 12.0	S	26	3:02 3.9	9:05 11.8	15:21 1.6	21:55 12.8														
	Tu	27	0:55 3.4	7:05 12.3	13:30 2.0	19:50 11.8	S	F	27	2:14 4.3	8:18 11.6	14:44 1.6	21:20 12.2	M	27	4:07 3.0	10:11 12.8	16:24 0.9	22:50 13.7													
	W	28	1:48 3.8	8:00 12.0	14:22 1.7	20:50 12.0	S	S	28	3:24 4.1	9:24 12.0	15:45 1.1	22:20 12.8	Tu	28	5:00 1.8	11:10 13.9	17:20 0.2	23:40 14.6													
	Th	29	2:50 4.0	8:55 12.1	15:18 1.3	21:50 12.4	S	S	29	4:27 3.5	10:27 12.7	16:43 0.4	23:15 13.6	W	29	5:48 0.6	12:00 14.9	18:10 —0.5	...													
	F	30	3:50 3.9	9:52 12.4	16:12 0.7	22:46 13.1	M	30	5:22 2.5	11:24 13.6	17:36 —0.3	...	Th	30	6:24 15.3	6:35 —0.4	12:47 15.7	18:57 —0.9														
S	S	31	4:48 3.5	10:46 12.8	17:05 0.0	23:40 13.7	O	Tu	31	6:06 14.5	12:16 1.5	18:27 14.5	—0.9																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N	F	1	1:10 15.7	7:18 16.2	13:30 16.2	19:42 16.0	M	M	1	2:04 15.3	8:18 16.2	14:45 16.1	20:45 0.8	P	W	1	2:26 14.4	8:42 15.3	15:12 15.3	21:12 1.4									
	S	2	1:50 15.8	8:00 16.5	14:17 16.5	20:25 16.0		Tu	2	2:48 14.8	9:04 15.5	15:30 15.5	21:32 1.6		Th	2	3:15 13.8	9:30 14.7	16:00 14.7	22:06 2.3									
	S	3	2:32 15.6	8:45 16.1	15:04 16.1	21:10 0.1		W	3	3:32 14.0	9:50 14.6	16:20 14.6	22:24 2.3		F	3	4:06 13.0	10:20 0.2	16:48 14.0	22:58 2.8									
	M	4	3:14 15.1	9:30 15.5	15:50 15.5	21:55 1.0		Th	4	4:20 13.0	10:42 0.2	17:12 13.7	23:20 3.1		S	4	5:00 12.3	11:12 1.3	17:40 13.3	23:51 3.6									
	Tu	5	3:58 14.2	10:15 14.5	16:40 14.5	22:44 2.1		F	5	5:20 12.2	11:38 1.3	18:10 12.9			S	5	6:00 11.7	12:10 2.2	18:34 12.8										
	W	6	4:46 13.3	11:08 0.2	17:36 13.6	23:40 3.1		S	6	6:25 3.7	12:28 11.5	19:12 2.2	19:12 12.4		M	6	6:54 3.2	12:40 11.4	19:30 2.9	19:30 12.5									
	Th	7	5:42 12.4	12:05 1.1	18:38 12.7			S	7	7:04 3.8	13:48 11.3	20:15 2.7	20:15 12.2		Tu	7	7:50 3.1	14:12 11.4	20:40 3.4	20:40 12.2									
	F	8	6:47 3.8	12:57 11.7	19:10 1.9	19:45 12.1		M	8	7:38 3.5	14:55 11.5	21:17 2.9	21:17 12.2		W	8	8:48 2.3	15:08 11.6	21:48 3.4	21:48 12.4									
	S	9	7:50 4.1	13:48 11.6	20:05 2.4	20:55 12.0		Tu	9	8:34 3.0	15:55 11.9	22:07 2.8	22:07 12.6		Th	9	9:36 2.1	16:00 12.1	22:56 3.3	22:56 12.7									
	S	10	8:16 3.5	14:18 11.8	20:55 2.4	21:55 12.4		W	10	9:20 2.2	16:45 12.6	22:52 2.5	22:52 13.1		F	10	10:22 1.4	16:50 12.7	23:54 8.0	23:54 13.0									
	M	11	9:15 3.1	15:05 12.4	21:45 2.0	22:45 13.0		Th	11	10:05 1.5	17:27 13.3	23:35 2.1	23:35 13.6		S	11	11:05 0.7	17:32 13.3	23:58 2.8	23:58 13.1									
	Tu	12	10:00 2.3	17:12 13.0	22:30 1.7	23:30 13.3		F	12	10:50 0.6	18:05 13.8				S	12	12:00 0.0	18:15 14.0											
E	W	13	11:00 1.6	18:00 13.4			S	S	13	11:40 0.1	18:40 14.3	18:42 1.7		S	M	13	12:40 13.5	19:00 14.5	19:00 2.3	19:00 13.5									
	Th	14	12:00 13.8	19:00 0.9	14:00 1.0			S	14	12:40 11.0	19:40 14.7	19:40 1.7			Tu	14	14:00 13.6	20:00 14.9	20:00 2.2	20:00 13.5									
	F	15	1:00 14.2	20:00 0.3	15:00 0.9			M	15	1:20 13.9	20:40 15.0	20:40 1.8			W	15	1:40 13.6	21:00 15.1	21:00 2.1	21:00 13.5									
	S	16	1:20 14.2	21:00 0.1	16:00 1.0			Tu	16	1:40 13.7	21:40 14.9	21:40 2.0			Th	16	2:00 13.5	22:00 15.0	22:00 2.1	22:00 13.5									
	S	17	1:40 14.2	22:00 0.3	17:00 1.3			W	17	2:00 13.3	22:40 14.7	22:40 2.3			F	17	2:20 13.2	23:00 14.7	23:00 2.2	23:00 13.5									
	M	18	2:00 13.9	23:00 0.3	18:00 1.7			Th	18	2:20 12.9	23:40 14.3	23:40 2.7			S	18	2:40 13.0	24:00 0.1	24:00 14.3	24:00 2.3									
	Tu	19	3:00 13.4	24:00 0.1	19:00 2.2			F	19	3:00 12.4	24:40 0.5	24:40 3.1			S	19	3:00 12.6	25:00 0.8	25:00 13.9	25:00 2.3									
	W	20	3:30 12.9	10:00 0.4	20:00 2.8			S	20	3:30 11.9	11:00 1.3	21:00 3.3			M	20	3:30 12.4	11:00 1.6	21:00 13.3										
	Th	21	4:10 12.2	10:40 1.0	21:00 3.5			S	21	4:10 11.6	11:40 1.9	21:40 3.3			Tu	21	4:10 2.1	12:00 12.4	21:40 13.0										
	F	22	5:08 11.6	11:40 1.5	22:00 3.5			M	22	5:08 3.2	12:40 11.7	22:40 3.3			W	22	5:08 1.8	13:00 12.5	22:40 13.0										
	S	23	6:18 3.9	12:40 11.2	23:00 2.0	23:10 12.4		Tu	23	6:18 2.7	13:40 12.1	23:40 3.3			Th	23	7:18 1.4	14:00 12.8	23:40 13.2										
	S	24	7:30 4.0	13:40 11.3	24:00 2.2	24:10 12.5		W	24	7:30 1.9	14:40 13.0	24:40 3.4			F	24	8:18 0.7	15:00 13.3	24:40 13.6										
P	M	25	8:40 3.4	14:40 11.9	25:00 2.0	25:10 13.0	E	Th	25	8:40 0.9	15:40 13.8	25:40 14.1		S	25	9:00 -0.1	16:00 13.8	25:40 14.0											
	Tu	26	9:40 2.4	15:40 12.9	26:00 1.5	26:10 13.5		F	26	9:40 -0.2	16:40 14.7	26:40 14.6		S	26	10:00 -0.9	17:00 14.4	26:40 14.3											
	W	27	10:40 1.4	16:40 13.8	27:00 0.9	27:10 14.3		S	27	10:40 -1.2	17:40 15.3	27:40 1.1		M	27	11:00 -1.4	18:00 14.8	27:40 2.0											
	Th	28	11:40 0.1	17:40 14.9	28:00 0.1			S	28	11:40 15.0	18:40 15.8	28:40 1.0		Tu	28	12:00 14.5	19:00 15.2	28:40 1.9											
	F	29	12:40 15.1	18:40 15.9	29:00 -0.1			M	29	12:40 15.1	19:40 15.9	29:40 1.1		W	29	1:00 11.5	20:00 15.2	29:40 1.7											
	S	30	1:40 15.5	19:40 16.4	30:00 -0.1			Tu	30	1:40 14.9	20:40 15.8	30:40 1.4		Th	30	2:00 14.3	21:00 15.1	30:40 1.7											
	S	31	2:40 15.6	20:40 16.4	31:00 0.2									F	31	3:00 13.9	22:00 14.8	31:00 1.9											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.
 ●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.																										
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.																					
	W.	Mo.					W.	Mo.					W.	Mo.																						
N	F	1	4:24 3.5	10:51 1.5	17:27 4.3	N	M	1	1:05 0.5	8:47 2.8	11:51 2.6	18:17 5.1	N	M	1	16:14 4.7																				
	S	2	0:10 1.4	6:26 3.3	11:41 1.8		18:15 4.7	O	Tu	2	2:01 0.0	9:38 3.0		12:40 2.6	19:12 5.4	O	Tu	2	0:47 0.4	9:01 3.1	11:25 2.9	17:40 4.8														
	S	3	1:13 0.7	8:14 3.2	12:21 2.0		18:56 5.1		A	W	3	2:45 -0.4		10:17 3.0	13:25 2.6		19:58 5.6	A	W	3	1:40 0.0	9:32 3.2	12:34 2.8	18:52 5.0												
	M	4	2:06 0.1	9:23 3.0	12:57 2.3		19:33 5.6			E	Th	4		3:22 -0.6	10:50 3.1		14:07 2.4		20:39 5.8	E	Th	4	2:21 -0.2	9:56 3.3	13:25 2.6	19:47 5.2										
	Tu	5	2:51 -0.4	10:14 3.0	13:38 2.4		20:10 5.8				E	F		5	3:35 -0.8		11:20 3.2		14:48 2.4		21:14 5.8	E	F	5	2:53 -0.3	10:19 3.4	14:08 2.4	20:30 5.3								
	W	6	3:31 -0.7	11:00 2.8	14:15 2.3		20:45 6.0					A		S	6		4:26 -0.7		11:42 3.3		15:27 2.3		21:47 5.6	A	S	6	3:21 -0.3	10:38 3.7	14:48 2.1	21:06 5.3						
	Th	7	4:13 -1.0	11:38 2.8	14:50 2.3		21:18 6.1							A	S		7		4:56 -0.6		12:07 3.4		16:03 2.2		22:18 5.5	A	S	7	3:48 -0.3	10:57 3.8	15:24 1.9	21:41 5.1				
	F	8	4:51 -1.0	12:14 2.8	15:24 2.4		21:51 6.0								E		M		8		5:26 -0.3		12:30 3.5		16:47 2.2		22:52 5.1	E	M	8	4:15 -0.1	11:08 4.0	16:02 1.7	22:12 4.9		
	S	9	5:27 -0.9	12:51 2.8	16:01 2.5		22:26 5.8										E		Tu		9		5:53 0.0		12:48 3.6		17:28 2.2		23:28 4.6	E	Tu	9	4:43 0.1	11:22 4.2	16:42 1.4	22:44 4.6
	S	10	6:03 -0.7	13:29 2.9	16:41 2.6		22:59 5.4												A		W		10		6:20 0.3		13:03 3.8		18:15 2.2			A	W	10	5:13 0.4	11:38 4.4	17:22 1.4	23:21 4.1
M	11	6:38 -0.3	14:06 3.0	17:26 2.7	23:35 4.9	C	Th						11								0:02 4.1		6:42 0.7		13:24 4.0		19:15 2.2		C		Th		11	5:37 0.9	11:58 4.4	18:07 1.4
Tu	12	7:11 0.0	14:39 3.2	18:19 2.8			C	F					12			0:42 3.6					7:10 1.2		13:52 4.1		20:20 2.2		C				F		12	0:06 3.8	5:59 1.2	12:17 4.5	18:48 1.4
W	13	0:08 4.5	7:41 0.5	14:49 3.5	19:32 2.9			S	S				13			1:34 3.1		7:36 1.6			14:26 4.3		21:58 2.0		S						S		13	0:41 3.2	6:22 1.6	12:51 4.6	19:53 1.4
Th	14	0:44 3.9	8:10 0.8	15:20 3.8	21:18 2.8				S	S			14			2:38 2.6		7:43 1.9		15:12 4.5	23:28 1.5		S								S		14	1:36 2.7	6:33 2.0	13:30 4.7	21:23 1.3
F	15	1:37 3.3	8:48 1.2	15:51 4.1	22:54 2.5					S	M		15			16:10 4.8						S									M		15	3:37 2.3	6:20 2.2	14:20 4.8	22:57 0.9
S	16	2:54 2.9	9:48 1.5	16:36 4.4							S	Tu	16			0:33 0.8		9:05 2.5		10:55 2.4	17:16 5.2			S							Tu		16	15:20 4.9		
S	17	0:06 1.9	4:39 2.0	10:42 1.7	17:13 4.7							S	W	17		1:28 0.1		9:20 2.7		12:10 2.4	18:25 5.6					S					W		17	0:06 0.4	9:07 2.8	10:35 2.6	16:38 5.1
M	18	1:00 1.2	8:04 2.4	11:37 1.8	18:01 5.3								P	Th	18	2:15 -0.4		9:42 2.8		13:07 2.2	19:28 6.0							P			Th		18	1:00 0.0	9:02 2.9	12:04 2.6	18:04 5.4
Tu	19	1:45 0.4	9:08 2.6	12:30 2.0	18:54 5.7									P	F	19	2:53 -0.8	10:05 3.0		13:58 1.9	20:22 6.4									P	F		19	1:47 -0.4	9:10 3.2	13:04 2.2	19:16 5.6
W	20	2:28 -0.3	9:49 2.7	13:20 2.0	19:43 6.2										P	S	20	3:35 -1.1	10:32 3.2	14:47 1.6	21:14 6.5										P	S	20	2:27 -0.5	9:28 3.4	13:57 1.6	20:16 5.9
Th	21	3:12 -0.8	10:25 2.9	14:08 1.9	20:32 6.6	P										S	21	4:15 -1.0	11:02 3.5	15:35 1.2	22:03 6.5								P			S	21	3:06 -0.5	9:48 3.8	14:44 1.0	21:10 6.0
F	22	3:56 -1.3	11:01 2.9	14:51 1.8	21:20 6.7		E									M	22	4:53 -0.7	11:30 3.8	16:23 1.0	22:52 6.1						E					M	22	3:46 -0.2	10:10 4.2	15:31 0.6	22:00 5.8
S	23	4:40 -1.4	11:38 3.0	15:38 1.8	22:06 6.7			E								Tu	23	5:31 -0.2	11:59 4.1	17:12 0.9	23:40 5.6				E							Tu	23	4:23 0.1	10:37 4.5	16:18 0.3	22:49 5.4
S	24	5:25 -1.3	12:15 3.1	16:26 1.7	22:54 6.5				E							W	24	6:08 0.3	12:58 4.3	18:10 0.9			E									W	24	4:57 0.5	11:04 4.7	17:08 0.1	23:37 5.0
M	25	6:07 -0.9	12:53 3.3	17:18 1.7	23:43 6.0					E						Th	25	0:28 4.9	6:45 0.9	13:00 4.4	19:10 1.0	E										Th	25	5:30 1.0	11:35 4.9	17:55 0.1
Tu	26	6:51 -0.4	13:31 3.4	18:17 1.7							E					F	26	1:25 4.2	7:32 1.5	13:42 4.4	20:22 1.1			E								F	26	0:28 4.3	6:02 1.5	12:07 5.0	18:52 0.2
W	27	0:33 5.4	7:33 0.2	14:04 3.8	19:28 1.7							E				S	27	2:38 3.2	8:07 2.2	14:19 4.5	21:57 1.0					E						S	27	1:31 3.4	6:32 2.1	12:42 5.0	20:03 0.4
Th	28	1:32 4.6	8:16 0.9	14:38 4.1	20:52 1.7								E			S	28	5:03 2.7	8:53 2.6	15:08 4.6	23:30 0.8							E				S	28	3:05 2.9	6:56 2.6	13:22 4.9	21:31 0.5
F	29	2:48 3.8	9:02 1.6	15:25 4.2	22:24 1.5									E		M	29													E		M	29	14:10 4.7	23:00 0.5	
S	30	4:28 3.1	10:05 2.2	16:20 4.4	23:52 1.1										E	Tu	30														E	Tu	30	15:10 4.5		
S	31	7:10 2.9	10:57 2.4	17:20 4.7		E										W	31												E			W	31	0:10 0.3	8:44 3.4	11:25 3.1	16:42 4.4

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 120th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.										
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						
W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	W.	Mo.	
	Th	1	1:03 0.2	9:00 3.5	12:37 2.8	18:18 4.4	A	S	1	0:43 0.5	8:22 4.1	13:17 2.4	18:42 3.7			Tu	1	0:58 1.2	7:47 4.9	14:14 1.0	20:35 3.1									
	F	2	1:36 0.1	9:20 3.8	13:25 2.5	19:25 4.5		S	2	1:18 0.7	8:33 4.3	13:53 1.8	19:45 3.8			W	2	1:30 1.2	8:01 5.3	14:53 0.5	21:30 3.1									
A	S	3	2:10 0.1	9:32 4.0	14:05 2.2	20:12 4.6	E	M	3	1:52 0.8	8:45 4.7	14:28 1.2	20:35 3.8			Th	3	2:02 1.4	8:25 5.6	15:27 -0.1	22:17 2.5									
	S	4	2:40 0.2	9:45 4.2	14:42 1.7	20:51 4.6		Tu	4	2:20 0.8	9:00 4.9	15:05 0.8	21:18 3.9			O	F	4	2:33 1.6	8:55 6.0	16:08 -0.5	23:05 2.5								
E	M	5	3:10 0.3	9:55 4.4	15:18 1.3	21:27 4.5		W	5	2:48 1.0	9:13 5.1	15:43 0.4	22:01 3.7			S	5	3:07 1.8	9:28 6.3	16:52 -0.9	23:56 2.9									
O	Tu	6	3:37 0.5	10:10 4.7	15:54 0.9	22:03 4.3		Th	6	3:13 1.2	9:32 5.4	16:18 0.0	22:47 3.5			S	6	3:40 2.1	10:02 6.4	17:38 -1.0	24:00 2.5									
	W	7	4:03 0.7	10:24 4.7	16:33 0.7	22:42 4.2		F	7	3:42 1.4	9:57 5.7	16:59 -0.2	23:38 3.3			M	7	0:52 2.7	4:12 2.8	10:41 6.3	18:22 -1.0									
	Th	8	4:25 1.0	10:41 4.9	17:10 0.6	23:22 3.8		S	8	4:12 1.7	10:25 5.8	17:45 -0.3				Tu	8	1:50 2.6	4:52 2.3	11:27 6.2	19:23 -0.9									
	F	9	4:51 1.2	11:04 5.1	17:50 0.5			S	9	0:42 2.8	4:38 1.9	11:00 5.8	18:38 -0.3			W	9	2:54 2.7	5:36 2.4	12:18 5.8	20:20 -0.4									
	S	10	0:08 3.3	5:17 1.6	11:31 5.1	18:42 0.5	S	M	10	1:52 2.6	5:02 2.2	11:38 5.7	19:37 -0.2			Th	10	4:02 2.9	6:40 2.7	13:16 5.3	21:20 0.9									
	S	11	1:08 2.8	6:35 2.0	12:07 5.2	19:44 0.6		Tu	11	12:22 5.5	20:45 -0.1					C	F	11	5:00 3.1	8:35 2.8	14:22 4.7	22:15 0.4								
	M	12	2:33 2.4	5:38 2.3	12:47 5.1	21:05 0.5		W	12	13:20 5.2	21:55 0.0					E	S	12	5:25 3.5	10:31 2.9	15:44 4.1	23:04 0.8								
C	Tu	13	13:38 5.0	22:30 0.4			C	Th	13	14:33 4.9	23:00 0.1					P	S	13	5:55 3.9	11:52 1.9	17:22 3.7	23:58 1.2								
	W	14	14:50 4.9	23:38 0.2				F	14	7:02 3.2	10:42 2.8	15:55 4.6	23:50 0.2				M	14	6:30 4.3	12:53 1.1	19:06 3.7									
	Th	15	8:10 3.0	19:30 2.9	16:20 4.8			S	15	7:07 3.6	12:00 2.3	17:27 4.3				Tu	15	0:38 1.5	7:07 4.8	13:46 0.5	20:32 3.3									
	F	16	0:30 0.0	8:14 2.9	12:05 2.5	17:45 4.9	E	S	16	0:35 0.5	7:27 4.1	12:58 1.6	19:00 4.3			W	16	1:15 1.7	7:39 5.3	14:33 -0.2	21:37 3.4									
	S	17	1:12 0.0	8:20 3.7	13:02 1.9	19:07 5.0	P	M	17	1:18 0.8	7:49 4.5	13:49 0.8	20:08 4.4			Th	17	1:50 1.9	8:12 5.8	15:18 -0.7	22:30 3.3									
	S	18	1:56 0.1	8:37 4.1	13:55 1.2	20:12 5.1		Tu	18	1:54 1.0	8:15 4.9	14:37 0.1	21:10 4.3			●	F	18	2:24 2.1	8:47 6.3	16:02 -1.0	23:18 3.0								
P	M	19	2:34 0.2	8:58 4.5	14:40 0.5	21:08 5.1	●	W	19	2:27 1.3	8:42 5.4	15:19 -0.5	22:07 4.0			N	S	19	2:58 2.2	9:22 6.3	16:47 -1.2									
●	Tu	20	3:08 0.5	9:23 4.8	15:27 0.0	21:58 5.0		Th	20	2:58 1.6	9:12 5.8	16:04 -0.9	23:05 3.6				S	20	0:05 2.8	3:29 2.3	9:56 6.2	17:51 -1.1								
	W	21	3:40 0.8	9:50 5.2	16:13 -0.4	22:50 4.6		F	21	3:28 1.9	9:43 6.1	16:53 -1.0	23:58 2.7				M	21	0:54 2.7	4:02 2.4	10:30 6.0	18:45 -0.9								
	Th	22	4:10 1.2	10:18 5.5	16:55 -0.6	23:45 4.0		S	22	3:57 2.2	10:15 6.1	17:41 -1.0				Tu	22	1:45 2.7	4:38 2.4	11:05 5.7	18:58 -0.5									
	F	23	4:42 1.6	10:48 5.6	17:48 -0.5		N	S	23	0:55 2.7	4:27 2.4	10:48 6.1	18:32 -0.8			W	23	2:40 2.7	5:15 2.6	11:44 5.2	19:58 -0.1									
	S	24	0:44 3.4	5:08 2.1	11:21 5.6	18:43 -0.3		M	24	2:02 2.4	4:52 2.3	11:23 5.7	19:26 -0.5			Th	24	3:38 3.1	6:13 2.9	12:20 4.6	20:20 0.9									
N	S	25	1:53 2.9	5:32 2.4	11:57 5.5	19:47 -0.1		Tu	25	12:05 5.3	20:25 -0.2					A	F	25	4:37 3.3	7:03 3.1	12:56 4.1	21:00 0.7								
	M	26	12:37 5.2	21:00 0.1	12:37 5.2	21:00 0.1		W	26	12:44 4.8	21:25 0.2					D	S	26	4:50 3.6	9:50 3.1	13:40 3.5	21:37 1.1								
D	Tu	27	13:20 4.8	22:17 0.3			D	Th	27	13:35 4.2	22:17 0.5						S	27	5:17 4.0	11:25 2.7	15:05 3.0	22:15 1.3								
	W	28	14:15 4.3	23:18 0.3				F	28	7:04 3.5	10:40 3.3	14:34 3.7	23:00 0.8				M	28	5:45 4.4	12:27 2.2	16:53 2.7	23:19 1.3								
	Th	29	7:57 3.5	11:00 3.3	15:40 4.0		A	S	29	7:08 4.0	12:12 2.5	16:07 2.8	23:37 1.0			Tu	29	6:14 4.7	13:15 1.5	19:29 2.5										
	F	30	0:04 0.3	8:12 3.8	12:33 2.9	17:13 3.8	E	S	30	7:18 4.2	12:55 2.2	18:05 2.5				W	30	0:00 1.6	6:38 5.1	13:57 0.8	20:50 2.5									
								M	31	0:22 1.1	7:29 4.6	13:36 1.6	19:28 2.6																	

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The time used is Cosmopolitan Standard, 120th meridian, E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
α	Th	1	0:44 1.7	7:18 5.3	14:37 0.3	21:32 2.8	○	S	1	1:46 2.1	8:14 6.3	15:41 -1.2	22:47 3.0	P	W	1	3:14 1.3	9:41 6.4	16:32 -0.8	23:07 8.9												
	F	2	1:24 1.8	7:56 5.8	15:15 -0.4	22:16 2.9		M	2	2:32 2.0	9:01 6.6	16:24 -1.4	23:19 3.1		Th	2	4:00 1.0	10:30 6.2	17:08 -0.4	23:33 4.1												
	S	3	2:00 2.0	8:34 6.2	15:58 -0.9	23:01 3.0		Tu	3	3:19 1.9	9:49 6.7	17:05 -1.3	23:53 3.2		F	3	4:48 0.8	11:19 5.7	17:45 -0.1													
	S	4	2:43 2.1	9:14 6.5	16:43 -1.3	23:44 2.8		W	4	4:03 1.7	10:36 6.5	17:45 -1.1			S	4	0:02 4.8	5:40 0.7	12:05 5.1	18:24 0.7												
	M	5	3:23 2.1	9:57 6.6	17:27 -1.4			Th	5	0:28 3.5	4:52 1.7	11:23 6.2	18:26 -0.6		S	5	0:34 4.4	6:41 0.8	12:59 4.5	19:05 1.4												
P	Tu	6	0:29 2.8	4:05 2.1	10:41 6.5	18:14 -1.3	E	F	6	1:03 3.6	5:47 1.6	12:12 5.6	19:08 0.1	C	M	6	1:15 4.4	7:11 0.8	14:01 3.6	19:41 2.0												
	W	7	1:12 2.8	4:52 2.2	11:28 6.3	19:01 -1.0		S	7	1:37 3.7	6:50 1.6	13:02 4.9	19:48 0.7		Tu	7	1:54 4.5	9:13 0.9	15:55 3.0	21:08 2.6												
	Th	8	1:58 2.9	5:45 2.3	12:17 5.9	19:51 -0.5		S	8	2:10 4.0	8:09 1.6	14:10 4.1	20:22 1.4		W	8	2:41 4.6	10:55 0.7														
	F	9	2:41 3.2	6:50 2.4	13:12 5.2	20:39 0.1		M	9	2:51 4.1	9:34 1.5	15:34 3.4	21:31 2.0		Th	9	3:46 4.6	12:21 0.4	20:41 3.1	23:05 3.0												
	S	10	3:27 3.4	8:18 2.5	14:13 4.5	21:27 0.7		Tu	10	3:45 4.3	11:14 1.2	18:05 2.9	22:27 2.5		F	10	5:12 4.6	13:23 0.1	21:13 3.4													
E	S	11	4:02 3.7	10:02 2.2	15:30 3.7	22:17 1.4	N	W	11	4:47 4.5	12:40 0.7	20:19 3.0	23:23 2.6	S	S	11	0:14 2.9	6:38 4.8	14:05 -0.1	21:36 3.6												
	M	12	4:52 4.1	11:34 1.6	17:22 3.4	23:15 1.8		Th	12	5:56 4.8	13:44 0.2	21:21 3.1			S	12	1:10 2.6	7:38 4.9	14:41 -0.3	22:00 3.7												
	Tu	13	5:47 4.4	12:46 1.0	19:37 3.1	23:59 2.2		F	13	0:20 2.7	6:56 5.2	14:32 -0.3	21:58 3.2		M	13	1:55 2.4	8:23 5.0	15:11 -0.3	22:21 3.8												
	W	14	6:31 4.9	13:46 0.4	20:59 3.1			S	14	1:08 2.7	7:49 5.4	15:12 -0.6	22:30 3.2		Tu	14	2:35 2.1	9:01 5.1	15:38 -0.2	22:40 4.0												
	Th	15	0:40 2.3	7:16 5.3	14:37 -0.2	21:54 3.1		S	15	1:53 2.6	8:33 5.6	15:45 -0.7	23:00 3.3		W	15	3:14 1.8	9:36 5.0	16:05 0.0	23:53 4.2												
N	F	16	1:20 2.4	7:57 5.7	15:21 -0.7	22:40 3.2	●	M	16	2:36 2.3	9:11 6.7	16:15 -0.7	23:26 3.4	E	Th	16	3:50 1.6	10:08 4.8	16:33 0.2	23:05 4.3												
	S	17	1:59 2.4	8:36 5.9	16:00 -1.0	23:20 3.0		Tu	17	3:09 2.2	9:48 5.6	16:44 -0.6	23:49 3.5		F	17	4:28 1.3	10:37 4.5	16:48 0.5	23:21 4.5												
	S	18	2:38 2.5	9:16 6.0	16:39 -1.1	23:55 3.0		W	18	3:54 2.1	10:21 5.4	17:12 -0.4			S	18	5:08 1.2	11:08 4.1	17:18 1.0	23:37 4.5												
	M	19	3:16 2.5	9:52 6.0	17:16 -1.0			Th	19	0:11 3.6	4:31 2.0	10:49 5.1	17:38 0.0		S	19	5:51 1.1	11:49 3.8	17:36 1.3	23:57 4.5												
	Tu	20	0:28 3.1	3:52 2.2	10:26 5.8	17:51 -0.7		F	20	0:26 3.7	5:16 2.0	11:18 4.6	18:03 0.4		M	20	6:29 1.2	12:22 3.3	17:59 1.7													
A	W	21	1:03 3.0	4:32 2.5	10:58 5.5	18:26 -0.4	A	S	21	0:42 3.9	6:00 2.0	11:54 4.1	18:26 1.2	W	Tu	21	0:25 4.6	7:28 1.2	13:11 2.8	18:08 2.1												
	Th	22	1:37 3.2	5:16 2.6	11:32 5.0	18:56 -0.1		S	22	1:03 4.0	6:51 2.1	12:28 3.6	18:51 1.3		W	22	1:04 4.7	8:54 1.1	14:42 2.5	17:50 2.3												
	F	23	2:10 3.3	6:03 2.6	12:06 4.5	19:25 0.4		M	23	1:26 4.1	7:45 2.1	13:12 3.1	19:06 1.7		Th	23	1:50 4.8	10:30 0.9														
	S	24	2:23 3.5	7:06 2.9	12:36 3.9	19:49 0.8		Tu	24	2:00 4.2	9:21 2.0	14:03 2.7	19:07 2.0		F	24	2:50 4.8	11:45 0.5														
	S	25	2:50 3.8	8:34 2.8	13:13 3.4	20:20 1.2		W	25	2:44 4.4	11:06 1.4				S	25	4:00 4.9	12:38 0.0	21:00 3.1	23:29 2.8												
J	M	26	3:28 4.0	10:27 2.5	14:19 2.9	21:08 1.6	S	Th	26	3:38 4.6	12:19 1.0			M	S	26	5:22 5.1	13:24 -0.3	20:58 3.3													
	Tu	27	4:14 4.2	11:53 2.1	15:34 2.5	22:00 1.9		F	27	4:44 5.0	13:12 0.3	21:28 2.8	23:35 2.6		M	27	0:38 2.4	6:42 5.4	14:05 -0.5	21:10 3.6												
	W	28	4:54 4.5	12:53 1.4	19:21 2.3	23:00 2.1		S	28	5:55 5.3	18:58 -0.3	21:34 3.0			Tu	28	1:33 1.9	7:48 5.6	14:45 -0.5	21:25 3.9												
	Th	29	5:38 4.9	13:39 0.7	20:54 2.5			S	29	0:42 2.4	7:04 5.7	14:36 -0.8	21:51 3.2		W	29	2:21 1.2	8:43 5.8	15:22 -0.3	21:48 4.3												
	F	30	0:02 2.2	6:31 5.4	14:20 0.0	21:46 2.8		M	30	1:38 2.4	8:00 6.1	15:16 -1.0	22:13 3.5		Th	30	3:08 0.7	9:33 5.7	15:59 0.0	22:12 4.6												
S	31	0:56 2.2	7:24 5.9	15:00 -0.7	22:16 2.9	○	Tu	31	2:27 1.7	8:58 6.4	15:55 -1.0	22:40 3.6																				

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JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N O	F	1	5:24 6.4	11:35 2.1	18:00 6.2					M	1	0:48 8.6	6:32 6.4	13:42 1.4	20:46 6.4					M	1	4:20 6.3	10:26 1.3	19:08 5.6					
	S	2	0:07 2.1	6:25 6.4	12:52 1.5	19:30 6.5				N	Tu	2	2:26 3.8	7:40 6.6	14:50 0.0	21:49 6.6				N	Tu	2	0:00 4.2	5:43 6.2	13:22 0.8	20:42 6.0			
	S	3	1:30 2.5	7:24 6.7	14:04 0.6	20:50 6.9					W	3	3:30 3.6	8:40 7.0	15:46 -0.6	22:35 7.0				W	3	2:25 4.2	7:12 6.2	14:37 0.3	21:36 6.5				
	M	4	2:36 2.9	8:15 7.0	15:02 -0.2	21:50 7.2					Th	4	4:15 3.5	9:30 7.3	16:26 -0.9	23:14 7.1				Th	4	3:22 8.8	8:28 6.6	15:28 -0.2	22:16 6.8				
	Tu	5	3:30 3.1	9:00 7.3	15:50 -0.8	22:40 7.3				○	F	5	4:50 3.2	10:14 7.7	17:08 -1.1	23:45 7.2				F	5	4:04 3.2	9:22 7.0	16:12 -0.4	22:50 7.1				
	W	6	4:10 3.2	9:44 7.7	16:32 -1.2	23:25 7.2					S	6	5:10 2.9	10:54 7.8	17:32 -1.0				S	6	4:34 2.8	10:06 7.4	16:40 -0.5	23:15 7.3					
	Th	7	4:48 3.2	10:20 7.8	17:10 -1.4						S	7	0:12 7.2	5:40 2.6	11:27 7.9	17:56 -0.7			○	S	7	5:00 2.3	10:48 7.7	17:08 -0.5	23:35 7.4				
	F	8	0:00 7.2	5:16 3.2	10:58 7.9	17:44 -1.3				A	M	8	0:35 7.2	6:00 2.3	11:58 7.8	18:22 -0.4				M	8	5:20 1.8	11:16 7.9	17:30 -0.3	23:55 7.5				
	S	9	0:35 6.8	5:42 3.1	11:32 7.8	18:18 -1.0					Tu	9	0:56 7.1	6:29 2.0	12:30 7.6	18:48 0.0				Tu	9	5:40 1.4	11:44 7.9	17:58 0.0					
	S	10	1:05 6.8	6:14 2.9	12:06 7.6	18:42 -0.5				E	W	10	1:19 7.1	6:58 1.7	13:02 7.3	19:18 0.5				W	10	0:15 7.5	6:04 1.0	12:14 7.7	18:22 0.4				
A C	M	11	1:32 6.7	6:45 2.8	12:40 7.3	19:14 -0.1				Th	11	1:42 7.2	7:32 1.6	13:40 6.9	19:50 1.1				Th	11	0:36 7.6	6:32 0.7	12:44 7.5	18:46 0.6					
	Tu	12	2:00 6.6	7:22 2.7	13:18 6.9	19:45 0.5					F	12	2:10 7.0	8:12 1.6	14:20 6.5	20:20 1.6				F	12	0:58 7.5	7:02 0.7	13:20 7.4	19:15 1.3				
	W	13	2:30 6.6	8:04 2.7	14:00 6.5	20:24 1.0			○	S	13	2:44 6.8	8:57 1.6	15:15 6.0	21:02 2.3				S	13	1:30 7.2	7:40 0.7	14:00 6.9	19:45 1.9					
	Th	14	2:58 6.6	8:52 2.6	14:50 6.0	21:06 1.8					S	14	3:22 6.5	9:50 1.7	16:22 5.5	21:48 3.0				S	14	1:56 7.0	8:16 0.8	14:48 6.2	20:26 2.6				
	○	F	15	3:42 6.4	9:58 2.5	15:52 5.6	21:52 2.4				M	15	4:14 6.8	10:58 1.5	18:02 5.1	23:00 3.7			○	M	15	2:32 6.7	9:09 1.0	15:55 5.6	21:06 3.5				
	S	16	4:28 6.3	10:48 2.2	17:14 5.4	22:50 2.8					Tu	16	5:22 6.2	12:26 1.3	20:04 5.4			S	Tu	16	3:20 6.3	10:18 1.3	17:38 5.1	22:24 4.2					
	S	17	5:20 6.2	11:55 1.9	18:50 5.3				S	W	17	0:45 4.0	6:45 6.3	13:58 0.7	21:24 6.0				W	17	4:32 6.0	11:56 1.3	19:56 5.5						
	M	18	0:00 3.2	6:28 6.3	13:14 1.3	20:18 5.7					Th	18	2:32 4.0	8:00 6.7	15:04 -0.1	22:10 6.7				Th	18	0:35 4.5	6:18 6.0	13:40 0.8	21:06 6.2				
	Tu	19	1:24 3.4	7:27 6.6	14:16 0.6	21:25 6.2					F	19	3:32 3.6	9:00 7.2	15:54 -0.8	22:48 7.1				F	19	2:45 4.1	7:50 6.5	14:50 0.0	21:50 6.8				
	S	W	20	2:32 3.5	8:20 7.0	15:12 -0.2	22:15 6.7		●	S	20	4:10 3.0	9:54 7.9	16:36 -1.3	23:20 7.5				S	20	3:30 3.3	8:58 7.3	15:40 -0.5	22:24 7.3					
P D	Th	21	3:26 3.4	9:11 7.4	16:00 -0.9	22:56 7.1			P	S	21	4:46 2.4	10:40 8.5	17:15 -1.6	23:52 7.7			P	S	21	4:00 2.4	9:50 8.0	16:20 -0.9	22:54 7.6					
	●	F	22	4:10 3.1	9:58 7.8	16:38 -1.4	23:36 7.3			M	22	5:22 1.7	11:24 8.8	17:54 -1.5			●	M	22	4:34 1.6	10:36 8.6	16:57 -0.9	23:20 7.8						
	P	S	23	4:52 2.9	10:40 8.2	17:22 -1.7			E	Tu	23	0:24 7.7	6:00 1.2	12:08 8.9	18:28 -1.1				Tu	23	5:05 0.8	11:20 8.9	17:32 -0.6	23:47 8.0					
	S	24	0:12 7.4	5:30 2.5	11:25 8.5	18:02 -1.7					W	24	0:52 7.7	6:37 0.7	12:52 8.6	19:06 -0.3				W	24	5:40 0.2	11:58 8.9	18:12 -0.1					
	M	25	0:50 7.5	6:08 2.2	12:12 8.5	18:48 -1.3					Th	25	1:26 7.7	7:20 0.5	13:40 8.1	19:50 0.6				Th	25	0:15 8.0	6:16 -0.2	12:40 8.7	18:48 0.6				
	Tu	26	1:25 7.4	6:52 1.9	13:00 8.3	19:30 -0.8					F	26	2:00 7.5	8:02 0.6	14:32 7.5	20:30 1.6				F	26	0:46 7.7	6:56 -0.3	13:25 8.1	19:18 1.5				
	E	W	27	2:05 7.2	7:40 1.7	13:50 7.8	20:12 0.0			D	S	27	2:38 7.0	8:54 0.7	15:30 6.6	21:15 2.6				S	27	1:16 7.6	7:35 -0.2	14:15 7.2	19:54 2.3				
	D	Th	28	2:45 7.1	8:30 1.5	14:50 7.2	21:06 1.0				S	28	3:22 6.7	9:56 1.0	17:00 5.8	22:12 8.6			D	S	28	1:53 7.3	8:22 0.2	15:14 6.3	20:33 3.2				
	F	29	3:30 6.9	9:34 1.5	15:56 6.7	22:03 2.0													N	M	29	2:35 6.8	9:25 0.7	16:40 5.5	21:29 3.9				
	S	30	4:22 6.4	10:35 1.5	17:26 6.1	23:12 2.9														Tu	30	3:35 6.3	10:50 1.0	18:45 5.5	23:17 4.5				
S	31	5:20 6.4	12:05 1.2	19:17 6.1															W	31	5:02 6.0	12:50 1.1	20:15 5.8						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Singapore Mean Local Civil, for the meridian 103° 51' E; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A	Th	1	2:08 4.1	6:50 6.0	14:10 0.7	21:05 6.3			A	S	1	2:20 3.2	7:15 6.0	14:12 1.3	20:44 6.6			Tu	1	2:33 1.5	8:52 6.5	14:36 2.0	20:45 7.0						
	F	2	3:00 3.5	8:10 6.3	15:02 0.1	21:42 6.7				S	2	2:55 2.4	8:42 6.5	14:55 1.3	21:14 7.0			W	2	3:06 0.8	9:35 6.8	15:20 2.1	21:35 7.3						
	S	3	3:36 2.8	9:10 6.8	15:40 0.3	22:15 7.1			E	M	3	3:22 1.6	9:26 6.9	15:26 1.3	21:40 7.1			Th	3	3:39 0.3	10:15 7.0	15:45 2.2	21:45 7.6						
	S	4	4:05 2.2	9:52 7.3	16:10 0.2	22:32 7.4				Tu	4	3:50 1.1	10:00 7.2	16:00 1.2	22:04 7.4	○		F	4	4:09 -0.3	10:51 7.1	16:18 2.3	22:14 7.8						
	E	M	5	4:30 1.5	10:27 7.6	16:35 0.3	22:54 7.6			○	W	5	4:12 0.6	10:34 7.5	16:25 1.3	22:24 7.6			S	5	4:44 -0.8	11:28 7.2	16:55 2.5	22:45 7.9					
C	Tu	6	4:50 0.9	11:00 7.8	17:00 0.5	23:12 7.7				Th	6	4:36 0.1	11:02 7.6	16:48 1.5	22:48 7.8	s		S	6	5:20 -1.1	12:05 7.1	17:26 2.7	23:19 8.0						
	W	7	5:17 0.6	11:25 7.8	17:25 0.7	23:30 7.6				F	7	5:02 -0.4	11:38 7.6	17:12 1.8	23:14 7.8			M	7	6:00 -1.2	12:48 7.0	18:09 2.9							
	Th	8	5:36 0.3	11:56 7.9	17:48 0.9	23:52 7.7				S	8	5:40 -0.7	12:14 7.4	17:46 2.1	23:44 7.8			Tu	8	6:00 7.9	13:01 -1.1	18:35 6.7	18:49 3.1						
	F	9	6:05 0.0	12:27 7.7	18:14 -0.2	24:15 1.8				S	9	6:10 -0.8	12:52 7.2	18:20 2.5			W	9	6:49 7.7	13:31 -0.7	19:05 6.5	19:19 3.3							
	S	10	6:17 7.7	6:35 -0.2	18:02 7.4	18:45 1.8			S	M	10	6:16 7.8	6:52 -0.7	18:40 6.7	19:00 2.9			Th	10	1:40 7.3	8:26 -0.2	15:25 6.2	20:45 3.4						
E	S	11	6:45 7.6	7:08 -0.1	18:42 6.8	19:15 2.4				Tu	11	6:55 7.5	7:34 -0.5	18:32 6.3	19:46 3.4	○		F	11	2:40 6.8	9:29 0.5	16:30 6.2	22:08 3.3						
	M	12	1:20 7.4	7:52 0.1	18:34 6.3	19:55 3.1				W	12	1:40 7.1	8:32 0.1	15:40 5.8	20:48 3.8	F		S	12	4:01 6.4	10:39 1.0	17:35 6.3	23:33 2.5						
	○	Tu	13	1:56 7.0	8:42 0.5	15:42 5.5	20:52 3.8		○	Th	13	2:40 6.6	9:40 0.6	17:06 5.7	22:18 4.1			S	13	5:36 6.3	11:56 1.5	18:35 6.5							
	W	14	2:50 6.5	9:50 0.9	17:27 5.2	22:15 4.3				F	14	4:08 6.2	11:06 1.0	18:32 6.0			M	14	6:50 1.9	7:06 6.5	13:16 1.8	19:33 6.7							
	Th	15	4:10 6.0	11:32 1.2	19:25 5.7					S	15	0:20 3.6	5:55 6.1	12:36 1.1	19:34 6.5			Tu	15	1:50 1.3	8:18 7.0	14:24 1.9	20:19 7.1						
P	F	16	0:52 4.8	6:05 6.1	18:18 0.8	20:24 6.3			E	S	16	1:40 2.7	7:27 6.6	13:54 0.9	20:20 6.9			W	16	2:44 0.3	9:21 7.4	15:16 2.2	21:09 7.4						
	S	17	2:20 3.5	7:40 6.6	14:28 0.3	21:10 6.9			P	M	17	2:26 1.7	8:33 7.2	14:50 1.0	21:04 7.3			Th	17	3:34 -0.5	10:19 7.6	15:59 2.5	21:40 7.7						
	S	18	3:02 2.6	8:48 7.3	15:18 0.0	21:44 7.3				Tu	18	3:05 0.9	9:26 7.8	15:36 1.0	21:37 7.5	●		F	18	4:17 -1.1	11:08 7.6	16:35 2.8	22:15 7.9						
	M	19	3:35 1.6	9:45 8.0	16:00 0.0	22:16 7.7		●	●	W	19	3:48 0.0	10:18 8.2	16:18 1.4	22:10 7.8	N		S	19	4:58 -1.4	11:54 7.4	17:18 3.0	22:51 8.1						
	●	Tu	20	4:12 0.7	10:25 8.5	16:40 0.2	22:45 7.8				Th	20	4:26 -0.7	11:02 8.2	16:52 1.8	22:40 8.0			S	20	5:39 -1.5	12:35 7.2	17:41 3.1	23:29 8.0					
D	W	21	4:45 -0.1	11:08 8.8	17:14 0.5	23:12 7.9				F	21	5:05 -1.1	11:46 7.9	17:20 2.2	23:10 8.1			M	21	6:15 -1.2	13:15 6.6	18:14 3.2							
	Th	22	5:20 -0.6	11:46 8.7	17:46 1.1	23:40 8.0		N	S	22	5:44 -1.3	12:30 7.5	17:52 2.6	23:45 8.0			Tu	22	6:05 7.8	6:54 -0.8	13:51 6.5	18:51 3.2							
	F	23	5:58 -0.9	12:30 8.2	18:16 1.7					S	23	6:26 -1.2	13:16 7.0	18:26 3.0			W	23	6:45 7.4	7:31 -0.2	14:28 6.3	19:34 3.2							
	S	24	6:10 7.9	6:34 -1.0	18:16 7.6	18:48 2.3				M	24	6:20 7.8	7:04 -0.8	14:00 6.5	19:04 3.3			Th	24	1:29 7.0	8:11 0.4	15:05 6.2	20:25 3.2						
	N	S	25	6:44 7.8	7:18 -0.7	14:04 6.7	19:24 3.0				Tu	25	6:58 7.4	7:48 -0.2	14:50 6.1	19:40 3.6	A		F	25	2:20 6.4	8:52 1.0	15:50 6.2	21:25 3.1					
D	M	26	1:20 7.5	8:04 -0.2	15:05 6.0	20:04 3.5				W	26	1:42 6.9	8:38 0.4	15:49 5.8	20:47 3.8	○		S	26	3:19 5.9	9:44 1.6	16:30 6.2	22:35 2.9						
	Tu	27	2:02 7.0	9:00 0.5	16:16 5.5	21:02 4.0		○	Th	27	2:44 6.3	9:32 1.0	16:48 5.8	22:10 3.8			S	27	4:30 5.5	10:39 2.2	17:19 6.2	23:45 2.6							
	W	28	3:00 6.4	10:12 1.0	17:58 5.6	22:50 4.4				F	28	3:56 5.8	10:38 1.6	17:50 5.9			M	28	5:51 5.5	11:38 2.6	18:08 6.3								
	Th	29	4:28 5.9	11:42 1.3	19:15 5.9			A	S	29	0:00 3.5	5:30 5.6	11:48 2.0	18:48 6.2			Tu	29	6:41 2.1	7:11 5.7	12:40 2.7	19:00 6.5							
	F	30	1:25 4.0	6:18 5.7	13:18 1.3	20:08 6.3		E	S	30	1:14 2.8	6:55 5.7	13:00 2.2	19:29 6.4			W	30	1:38 1.4	8:18 5.9	13:38 2.9	19:48 6.8							
									M	31	2:00 2.2	8:00 6.0	13:52 2.2	20:08 6.6															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Singapore Mean Local Civil, for the meridian 108° 51' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
Z	Th	1	2:26 0.7	9:16 6.2	14:29 3.0	20:30 7.1	P	S	1	8:39 -0.5	10:41 6.8	15:51 3.3	21:37 7.7	E	W	1	4:51 -1.3	11:29 7.6	17:00 1.7	23:01 8.7												
	F	2	3:10 0.1	10:04 6.5	15:19 3.0	21:10 7.4		○	M	2	4:21 -1.0	11:18 7.1	16:30 2.9		22:21 8.1	Th	2	5:28 -1.3	11:58 7.7	17:35 1.0	23:45 8.8											
	S	3	3:51 -0.5	10:46 6.8	15:58 3.0	21:49 7.7		Tu	3	5:04 -1.4	11:54 7.3	17:10 2.5	23:06 8.5		F	3	6:05 -0.9	12:28 7.7	18:14 0.6													
	S	4	4:31 -1.0	11:23 7.0	16:43 3.0	22:28 8.0		P	W	4	5:45 -1.5	12:28 7.3	17:50 2.1		23:51 8.5	S	4	0:30 8.7	6:45 -0.3	13:00 7.7	18:54 0.4											
	M	5	5:11 -1.3	12:03 7.1	17:16 2.9	23:10 8.2		Th	5	6:25 -1.3	13:03 7.4	18:31 1.8			S	5	1:15 8.3	7:25 0.6	13:33 7.5	19:39 0.4												
P	Tu	6	5:54 -1.4	12:42 7.0	17:59 2.8	23:54 8.2	C	E	F	6	0:38 8.4	7:07 -0.8	13:39 7.3	19:16 1.5	C	M	6	2:06 7.7	8:05 1.5	14:10 7.2	20:26 0.5											
	W	7	6:37 -1.2	13:25 6.9	18:44 2.7			S	7	1:28 8.1	7:49 -0.1	14:19 7.2	20:06 1.3	Tu		7	3:05 6.9	8:50 2.5	14:51 6.8	21:27 0.7												
	Th	8	0:42 8.0	7:21 -0.9	14:10 6.9	19:33 2.6		○	S	8	2:23 7.5	8:38 0.8	15:00 7.1	21:01 1.2		W	8	4:23 5.9	9:45 3.4	15:50 6.5	22:47 0.9											
	F	9	1:35 7.7	8:11 -0.3	14:56 6.8	20:30 2.5		M	9	3:26 7.0	9:31 1.8	15:46 6.6	22:01 1.3	Th		9	6:25 5.7	11:20 4.1	17:10 6.3													
	S	10	2:35 7.2	9:05 0.4	15:46 6.7	21:35 2.2		Tu	10	4:45 6.3	10:31 2.7	16:42 6.5	23:20 1.1	F		10	0:42 0.7	8:11 6.0	13:55 4.2	18:45 6.4												
E	S	11	3:48 6.7	10:04 1.2	16:41 6.6	22:49 1.9	N	W	11	6:28 6.0	11:56 3.4	17:52 6.5		N	S	11	2:11 0.3	9:18 6.4	15:00 3.7	20:05 6.6												
	M	12	5:11 6.4	11:20 2.0	17:40 6.5	23:59 1.5		Th	12	1:00 0.7	8:17 6.2	13:46 8.9	19:06 6.7		S	12	3:09 -0.2	9:54 6.9	15:42 3.1	21:05 7.1												
	Tu	13	6:40 6.4	12:39 2.6	18:41 6.6			F	13	2:21 0.0	9:24 6.6	15:04 3.8	20:11 7.0		M	13	3:52 -0.5	10:29 7.2	16:16 2.6	21:51 7.6												
	W	14	1:20 0.8	8:11 6.6	13:55 3.0	19:39 6.9		S	14	3:24 -0.5	10:15 6.9	15:54 3.5	21:09 7.3		●	Tu	14	4:29 -0.5	10:56 7.3	16:41 2.1	22:33 7.9											
	Th	15	2:30 0.0	9:25 6.9	15:00 3.3	20:30 7.3		S	15	4:09 -0.9	10:58 7.1	16:31 3.1	21:56 7.7		●	W	15	4:55 -0.4	11:19 7.5	17:09 1.6	23:07 8.0											
N	F	16	3:26 -0.7	10:21 7.1	15:50 3.4	21:19 7.5	●	M	16	4:46 -1.1	11:30 7.2	17:01 2.8	22:39 7.9	E	Th	16	5:19 -0.2	11:40 7.5	17:29 1.1	23:34 7.9												
	S	17	4:14 -1.2	11:09 7.2	16:31 3.3	22:06 7.9		Tu	17	5:19 -1.0	11:58 7.2	17:28 2.5	23:16 8.0		F	17	5:44 0.2	11:56 7.6	17:51 0.8													
	S	18	4:56 -1.4	11:50 7.1	17:06 3.3	22:43 8.0		W	18	5:48 -0.8	12:22 7.2	17:53 2.1	23:49 7.9		S	18	0:04 7.7	6:06 0.6	12:18 7.6	18:18 0.6												
	M	19	5:33 -1.3	12:25 7.0	17:36 3.1	23:20 8.1		Th	19	6:11 -0.4	12:42 7.2	18:19 1.8			S	19	0:34 7.6	6:29 1.0	12:39 7.4	18:47 0.6												
	Tu	20	6:06 -1.0	12:55 6.9	18:06 2.8	23:59 7.8		A	F	20	0:21 7.7	6:36 0.1	13:04 7.2		18:48 1.5	M	20	1:06 7.2	6:55 1.5	13:02 7.3	19:19 0.6											
A	W	21	6:37 -0.7	13:23 6.8	18:39 2.7		A	S	21	0:55 7.3	7:06 0.6	13:28 7.2	19:21 1.4	J	Tu	21	1:44 6.8	7:25 2.0	13:32 7.1	19:56 0.7												
	Th	22	0:36 7.5	7:08 -0.1	13:50 6.7	19:15 2.5		S	22	1:29 6.9	7:34 1.3	13:54 7.0	19:57 1.4		W	22	2:29 6.2	8:00 2.7	14:09 6.8	20:43 1.0												
	F	23	1:14 7.2	7:38 0.4	14:18 6.7	19:55 2.4		M	23	2:09 6.6	8:05 1.7	14:23 6.8	20:40 1.1		Th	23	3:30 5.5	8:42 3.4	14:50 6.4	21:47 1.3												
	S	24	1:55 6.6	8:16 1.0	14:48 6.7	20:40 2.3		J	Tu	24	3:00 6.0	8:41 2.3	15:00 6.6		21:27 1.6	F	24	5:02 5.0	9:50 4.1	15:59 6.0	23:17 1.4											
	S	25	2:43 6.1	8:52 1.7	15:24 6.5	21:31 2.2		W	25	4:00 5.5	9:26 3.0	15:47 6.3	22:30 1.6		S	25	7:24 5.3	11:46 4.4	17:44 5.9													
D	M	26	3:39 5.8	9:31 2.2	16:05 6.5	22:25 2.0	S	Th	26	5:32 5.0	10:28 3.6	16:50 6.2	23:55 1.5	P	S	26	1:04 1.1	8:38 6.0	14:14 4.0	19:23 6.4												
	Tu	27	4:49 5.4	10:24 2.7	16:55 6.3	23:27 1.8		F	27	7:36 5.3	12:04 4.1	18:13 6.2			M	27	2:21 0.4	9:21 6.6	15:01 3.3	20:32 7.1												
	W	28	6:20 5.2	11:26 3.2	17:56 6.4			S	28	1:26 0.9	9:00 5.8	14:07 4.1	19:33 6.6		Tu	28	3:15 -0.3	9:58 7.1	15:38 2.4	21:25 7.8												
	Th	29	0:48 1.4	7:55 5.5	12:41 3.5	18:56 6.5		S	29	2:38 0.2	9:49 6.4	15:09 3.7	20:37 7.1		W	29	3:56 -0.6	10:26 7.5	16:09 1.5	22:12 8.5												
	F	30	1:55 0.8	9:06 5.9	14:00 3.6	19:54 6.8		M	30	3:30 -0.5	10:28 7.0	15:50 3.1	21:31 7.8		Th	30	4:32 -0.7	10:54 7.8	16:42 0.7	22:56 8.8												
D	S	31	2:50 0.1	9:59 6.3	15:01 3.5	20:48 7.2	○	Tu	31	4:13 -1.0	10:59 7.3	16:25 2.4	22:19 8.3	E																		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Singapore Mean Local Civil, for the meridian 103° 51' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times afternoon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☉, 1st quar.; ☊, full moon; ☌, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.								W.		Mo.							W.	Mo.												
N C	F	1	5:11 -0.5	11:21 8.0	17:16 0.1	23:35 8.9				M	1	0:10 8.3	5:54 1.7	11:46 8.2	18:12 -1.3				W	1	0:58 7.2	6:09 2.9	12:00 8.1	18:48 -1.2								
	S	2	5:47 0.0	11:50 8.0	17:53 -0.4				N	Tu	2	0:56 7.7	6:26 2.3	12:20 8.0	18:56 -1.0				Th	2	1:41 6.7	6:45 3.2	12:40 7.7	19:31 -0.6								
	S	3	0:17 8.8	6:21 0.7	12:19 7.9	18:31 -0.6				W	3	1:44 7.0	7:01 2.9	12:57 7.6	19:43 -0.5				F	3	2:30 6.3	7:29 3.4	13:25 7.3	20:19 0.1								
	M	4	1:01 8.2	6:55 1.5	12:51 7.7	19:11 -0.5				Th	4	2:40 6.2	7:44 3.5	13:40 7.1	20:39 0.2				C	S	4	3:24 6.0	8:25 3.6	14:20 6.6	21:11 0.5							
	Tu	5	1:50 7.4	7:30 2.3	13:28 7.5	20:00 -0.2			C	F	5	3:51 5.7	8:40 3.9	14:39 6.6	21:46 0.8				S	5	4:23 5.9	9:40 3.6	15:31 6.0	22:14 1.1								
	W	6	2:50 6.5	8:13 3.1	14:10 7.0	21:00 0.4				S	6	5:27 5.6	10:20 4.3	16:02 5.9	23:18 1.2				M	6	5:23 5.9	11:25 3.4	17:04 5.6	23:24 2.0								
	Th	7	4:09 5.6	9:06 3.8	15:08 6.5	22:19 0.8				S	7	6:53 6.0	12:55 4.0	17:56 5.7				E	Tu	7	6:20 6.1	12:50 2.7	18:39 5.6									
	F	8	6:15 5.6	10:51 4.5	16:35 6.1					M	8	0:54 1.3	7:44 6.4	13:59 3.0	19:28 6.0				W	8	0:37 2.3	7:09 6.2	13:40 2.2	19:30 0.1								
	S	9	0:12 0.9	7:49 5.9	13:48 4.1	18:26 6.0				Tu	9	1:56 1.3	8:21 6.7	14:39 2.2	20:31 6.5				Th	9	1:36 2.4	7:51 6.6	14:26 1.5	20:45 0.4								
	E A	S	10	1:44 0.7	8:41 6.4	14:40 3.4	19:53 6.4			A	W	10	2:40 1.4	8:55 7.0	15:11 1.4	21:15 6.9				F	10	2:25 2.3	8:31 7.1	15:01 0.8	21:36 6.7							
M		11	2:41 0.4	9:19 6.9	15:18 2.6	20:54 6.9			Th	11	3:14 1.4	9:25 7.2	15:36 0.9	21:53 7.3				S	11	3:04 2.4	9:00 7.3	15:32 0.2	22:02 6.9									
Tu		12	3:24 0.3	9:49 7.2	15:46 1.9	21:39 7.3				F	12	3:47 1.4	9:49 7.5	16:01 0.4	22:25 7.5				S	12	3:35 2.5	9:31 7.5	16:02 -0.3	22:45 7.0								
W		13	3:55 0.3	10:14 7.5	16:14 1.3	22:15 7.7		●	S	13	4:41 1.5	10:10 7.7	16:26 -0.1	22:56 7.5	●			M	13	4:05 2.5	10:00 7.8	16:34 -0.7	23:20 7.1									
●		Th	14	4:23 0.4	10:35 7.7	16:36 0.8	22:46 7.8			S	14	4:34 1.7	10:32 7.8	16:52 -0.4	23:29 7.4	S		Tu	14	4:36 2.6	10:31 7.9	17:09 -1.0	23:53 7.0									
F		15	4:48 0.6	10:54 7.6	16:59 0.4	23:14 7.9				M	15	4:59 1.9	10:56 7.9	17:22 -0.7				W	15	5:10 2.7	11:05 8.0	17:45 -1.1										
S		16	5:10 0.9	11:14 7.7	17:21 0.1	23:43 7.8				Tu	16	0:01 7.2	5:28 2.2	11:21 8.0	17:56 -0.8				Th	16	0:30 6.9	5:47 2.8	11:41 8.1	18:24 -1.1								
S		17	5:31 1.2	11:33 7.7	17:49 -0.1			S	W	17	0:36 7.0	5:58 2.5	11:55 7.8	18:31 -0.8				F	17	1:11 6.8	6:26 3.0	12:21 7.9	19:07 -0.8									
D		M	18	0:14 7.5	5:54 1.6	11:56 7.8	18:15 -0.2			Th	18	1:17 6.7	6:34 2.9	12:30 7.7	19:14 -0.4				S	18	1:57 6.6	7:15 3.1	13:12 7.5	19:55 -0.3								
		Tu	19	0:48 7.2	6:24 2.0	12:22 7.6	18:49 -0.2			F	19	2:06 6.2	7:17 3.3	13:11 7.2	20:04 0.0				S	19	2:49 6.4	8:10 3.2	14:06 7.0	20:51 0.4								
	W	20	1:25 6.7	6:55 2.5	12:53 7.4	19:29 0.1			S	20	3:06 6.0	8:20 3.8	14:06 6.7	21:05 0.6	D		M	20	3:46 6.3	9:17 3.1	15:17 6.5	21:54 1.0										
	S	Th	21	2:13 6.2	7:30 3.1	13:29 7.0	20:18 0.4	D	S	21	4:22 5.7	9:32 4.0	15:24 6.1	22:25 1.1	E		Tu	21	4:48 6.2	10:39 2.9	16:45 6.2	23:08 1.6										
	F	22	3:15 5.6	8:21 3.7	14:13 6.5	21:21 0.9				M	22	5:47 5.8	11:23 3.7	17:08 6.0	23:51 1.4	P		W	22	5:52 6.3	12:05 2.2	18:24 6.2										
	S	23	4:45 5.2	9:33 4.3	15:30 5.9	22:49 1.3	E	Tu	23	6:56 6.2	13:01 2.9	18:53 6.8				Th	23	0:34 2.1	6:55 6.4	13:14 1.6	19:47 6.6											
	S	24	6:46 5.7	12:01 4.3	17:27 5.8					W	24	1:12 1.3	7:54 6.7	13:56 1.8	20:08 6.9			F	24	1:49 2.2	7:49 6.8	14:18 0.6	20:59 7.1									
	M	25	0:34 1.2	7:56 6.2	13:51 3.6	19:12 6.3	P	Th	25	2:17 1.3	8:34 7.0	14:41 1.1	21:03 7.5				S	25	2:50 2.5	8:34 7.2	15:11 -0.4	21:59 7.4										
	E P O	Tu	26	1:54 0.7	8:41 6.7	14:36 2.6	20:22 7.1			F	26	3:11 1.2	9:10 7.4	15:25 0.1	21:55 8.0				S	26	3:39 2.7	9:16 7.6	15:59 -1.1	22:51 7.6								
		W	27	2:52 0.4	9:19 7.3	15:12 1.6	21:18 7.8	C	S	27	3:54 1.5	9:43 7.8	16:04 -0.7	22:42 8.2				M	27	4:20 2.9	9:56 8.0	16:42 -1.6	23:36 7.6									
Th		28	3:33 0.3	9:49 7.7	15:46 0.7	22:01 8.3			S	28	4:30 1.8	10:16 8.1	16:45 -1.3	23:29 8.0				Tu	28	4:55 3.0	10:36 8.2	17:23 -1.7										
F		29	4:14 0.3	10:18 7.8	16:21 -0.1	22:44 8.8			M	29	5:03 2.2	10:50 8.2	17:24 -1.6					W	29	0:17 7.5	5:29 8.0	11:14 8.4	18:02 -1.6									
S		30	4:50 0.6	10:46 8.0	16:56 -0.8	23:26 8.7	N	Tu	30	0:13 7.7	5:34 2.5	11:23 8.3	18:05 -1.6					Th	30	0:57 7.1	6:01 3.0	11:52 8.2	18:40 -1.2									
S		31	5:21 1.1	11:15 8.1	17:34 -1.2														F	31	1:32 6.8	6:38 2.9	12:34 7.9	19:16 -0.7								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Singapore Mean Local Civil for the meridian 103° 51' E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.				FEBRUARY.				MARCH.			
Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.	
W.	Mo.			W.	Mo.			W.	Mo.		
	F 1	8:25	17:02		M 1	8:30	17:40		M 1	7:26	16:20
		1.7	0.4			2.1	—0.5			1.9	—0.5
	S 2	8:40	17:30	N	Tu 2	8:55	18:18	N	Tu 2	8:04	16:52
		1.8	0.0			2.2	—0.6			2.0	—0.5
	S 3	8:55	18:10		W 3	9:15	18:50		W 3	8:30	17:17
		2.1	—0.3			2.3	—0.5			2.0	—0.4
	M 4	9:07	18:52		Th 4	9:32	19:20		Th 4	8:55	17:40
		2.2	—0.5			2.2	—0.3			1.9	—0.2
	Tu 5	9:24	19:32		F 5	9:45	19:28		F 5	9:08	17:58
		2.4	—0.5			2.2	—0.2			1.9	0.0
○ N	W 6	9:44	20:08		S 6	10:00	19:36		S 6	9:25	17:56
		2.4	—0.5			2.0	—0.1			1.7	0.1
	Th 7	10:02	20:33		S 7	10:05	19:39	○ A	S 7	9:30	17:50
		2.4	—0.4			1.9	0.0			1.6	0.2
	F 8	10:25	20:55	A	M 8	10:07	19:26		M 8	9:20	17:22
		2.3	—0.3			1.8	0.1			1.6	0.3
	S 9	10:37	21:12		Tu 9	10:08	19:24	E	Tu 9	0:50	2:20
		2.2	—0.3			1.6	0.2			1.0	1.4
	S 10	10:40	21:28	E	W 10	9:35	19:06		W 10	0:35	3:30
		2.1	—0.2			1.4	0.3			1.1	0.9
A	M 11	10:40	21:44		Th 11	8:35	18:15		Th 11	0:00	4:05
		1.9	0.0			1.3	0.4			1.3	1.0
	Tu 12	10:20	21:45		F 12	7:05	16:45		F 12	0:50	15:08
		1.7	0.1			1.4	0.4			1.4	0.4
	W 13	9:20	21:50	○	S 13	6:50	16:05		S 13	1:30	14:34
		1.6	0.1			1.5	0.2			1.4	0.2
E	Th 14	8:40	21:55		S 14	6:45	16:02		S 14	8:24	15:40
		1.6	0.4			1.7	—0.1			1.6	0.0
○	F 15	8:16	18:26		M 15	7:00	16:15	○	M 15	4:50	15:00
		1.7	0.4			2.0	—0.3			1.7	—0.3
	S 16	8:07	17:15		Tu 16	7:25	16:35	S	Tu 16	5:50	15:10
		1.8	0.1			2.2	—0.5			1.9	—0.6
	S 17	8:02	17:25	S	W 17	7:55	17:00		W 17	6:40	15:37
		2.0	—0.1			2.4	—0.7			2.1	—0.7
	M 18	8:08	17:30		Th 18	8:30	17:22		Th 18	7:28	16:04
		2.2	—0.3			2.5	—0.8			2.2	—0.7
	Tu 19	8:22	17:50		F 19	9:05	17:50		F 19	8:10	16:28
		2.4	—0.5			2.6	—0.7			2.2	—0.6
S	W 20	8:47	18:12	●	S 20	9:45	18:18		S 20	8:52	16:48
		2.6	—0.7			2.5	—0.6			2.1	—0.4
	Th 21	9:18	18:42	P	S 21	10:20	18:40	P	S 21	2:35	9:30
		2.7	—0.8			2.4	—0.8			0.8	2.0
●	F 22	9:54	19:17		M 22	10:54	19:05	●	M 22	3:35	10:10
		2.8	—0.8			2.1	—0.1			0.8	1.7
P	S 23	10:28	19:50	E	Tu 23	11:17	19:06	E	Tu 23	4:45	10:45
		2.7	—0.7			1.7	0.2			0.7	1.4
	S 24	11:00	20:25		W 24	2:10	5:00		W 24	5:52	11:20
		2.6	—0.5			1.0	0.9			0.6	1.1
	M 25	11:30	21:00		Th 25	3:10	17:50		Th 25	0:09	8:15
		2.3	—0.3			1.2	0.5			1.5	0.7
	Tu 26	11:50	21:20		F 26	4:35	15:10		F 26	0:50	13:34
		1.9	0.0			1.4	0.3			1.7	0.3
E	W 27	11:05	21:30	○	S 27	5:55	15:20		S 27	1:50	13:50
		1.5	0.2			1.6	0.0			1.8	0.0
○	Th 28	7:50	21:40		S 28	6:45	15:45	○	S 28	3:27	14:20
		1.3	0.5			1.8	—0.3			1.8	—0.2
	F 29	7:22	16:20					N	M 29	5:12	14:55
		1.6	0.3							1.8	—0.3
	S 30	7:45	16:35						Tu 30	6:24	15:20
		1.8	0.0							1.7	—0.3
	S 31	8:08	17:05						W 31	7:15	15:46
		2.0	—0.3							1.7	—0.3

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 0.9 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Batavia Mean Local Civil for the meridian 106° 48' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ○, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.					W.	Mo.					W.	Mo.				
A	Th	1	7:50	16:05		A	S	1	5:10	7:40	14:42	22:34	Tu	1	6:45	21:20		
			1.5	-0.2					1.0	1.1	0.3	1.5			0.2	1.9		
	F	2	8:25	16:20			S	2	14:38	22:22			W	2	7:32	21:14		
			1.4	0.0					0.4	1.5					0.1	2.1		
	S	3	8:45	16:18		E	M	3	14:00	21:58			Th	3	7:45	21:28		
E			1.3	0.3					0.5	1.6					0.0	2.2		
	S	4	8:47	15:57	23:08		Tu	4	13:25	21:48		○	F	4	8:00	21:50		
			1.2	0.4	1.2				0.7	1.7					-0.2	2.4		
	M	5	4:40	8:46	15:45	○	W	5	12:35	21:55			S	5	8:34	22:17		
			1.0	1.1	0.5				0.5	1.9					-0.4	2.6		
○	Tu	6	4:26	8:50	15:10		Th	6	11:15	22:05		S	S	6	9:10	22:50		
			0.9	1.0	0.5				0.3	2.0					-0.6	2.6		
	W	7	5:24	8:40	15:00		F	7	10:35	22:25			M	7	9:50	23:20		
			0.8	0.9	0.6				0.1	2.2					-0.8	2.6		
	Th	8	14:05	22:55			S	8	10:26	22:55			Tu	8	10:35	23:58		
			0.5	1.7					-0.1	2.3					-0.8	2.4		
S	F	9	13:35	23:22			S	9	11:00	23:30			W	9	11:15			
			0.3	1.8					-0.4	2.4					-0.7			
	S	10	12:42	23:54		S	M	10	11:45				Th	10	0:25	11:50		
			0.1	1.9					-0.6						2.4	-0.6		
	S	11	13:02				Tu	11	0:07	12:16			○	F	11	0:15	12:20	21:45
S			-0.2						2.3	-0.7					1.9	-0.2	1.7	
	M	12	0:40	13:20			W	12	0:52	12:47		E	S	12	12:33	21:05		
			2.0	-0.4					2.1	-0.7					0.0	1.6		
	○	Tu	13	1:56	13:45		○	Th	13	1:48	13:20			S	13	12:45	20:48	
			1.9	-0.6					1.9	-0.6					0.3	1.8		
	W	14	4:30	14:15			F	14	2:15	13:45	22:15		M	14	5:00	7:55	12:32	
			1.8	-0.7					1.7	-0.3	1.5				0.5	0.6	0.5	
	Th	15	5:54	14:45			S	15	2:00	6:05	14:00	21:42	Tu	15	5:48	21:04		
			1.8	-0.6					1.3	1.4	0.0	1.5			0.1	2.1		
	F	16	6:55	15:10	23:04	E	S	16	3:28	7:30	14:08	21:28	W	16	6:34	21:22		
P			1.8	-0.5	1.2				1.0	1.1	0.2	1.6			-0.1	2.4		
	S	17	1:50	7:50	15:26	P	M	17	4:26	8:50	14:12	21:28	Th	17	7:20	21:45		
			1.1	1.7	-0.2				0.8	1.0	0.4	1.7			-0.3	2.5		
	S	18	2:55	8:40	15:30		Tu	18	5:10	10:00	13:40	21:42	●	F	18	8:08	22:10	
			0.9	1.5	0.1	●			0.6	0.7	0.4	2.0			-0.4	2.6		
●	M	19	3:55	9:28	15:45	●	W	19	6:20	22:00		N	S	19	8:48	22:40		
			0.8	1.4	0.4				0.3	2.3					-0.5	2.6		
	Tu	20	4:40	10:25	15:40		Th	20	7:43	22:28			S	20	9:25	23:10		
			0.6	1.0	0.5				0.0	2.4					-0.5	2.4		
	W	21	5:57	11:45	15:05		F	21	9:08	23:00			M	21	9:58	23:30		
			0.4	0.8	0.6				-0.2	2.4					-0.4	2.2		
N	Th	22	7:55	23:28			S	22	10:10	23:36			Tu	22	10:32	23:34		
			0.3	2.0					-0.3	2.3					-0.3	2.0		
	F	23	10:50			N	S	23	10:55				W	23	10:55	23:08		
			0.1						-0.4						-0.3	1.8		
	S	24	0:05	12:00			M	24	0:06	11:35			Th	24	11:15	21:53		
D			2.1	-0.1					2.2	-0.4					-0.1	1.6		
	S	25	0:45	12:42			Tu	25	0:25	12:05	23:55		A	F	25	11:25	21:10	
			2.0	-0.2					2.0	-0.4	1.8				0.1	1.7		
	M	26	1:26	13:16			W	26	12:40	22:28		○	S	26	11:26	21:00		
			1.9	-0.3					-0.3	1.6					0.2	1.7		
	Tu	27	2:55	13:45		○	Th	27	12:55	21:50			S	27	11:35	20:50		
			1.7	-0.3					-0.1	1.6					0.4	1.9		
	W	28	4:55	14:12			F	28	13:10	21:48			M	28	6:40	20:54		
			1.5	-0.3					0.1	1.7					0.4	1.9		
	Th	29	6:10	14:30	22:30	A	S	29	13:08	21:43			Tu	29	6:10	20:45		
			1.3	-0.1	1.5				0.2	1.7					0.2	2.0		
	F	30	3:40	7:04	14:45	E	S	30	13:14	21:35			W	30	6:20	20:43		
			1.1	1.2	0.1				0.3	1.8					-0.1	2.1		
							M	31	12:20	21:30								
									0.5	1.8								

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The time used is Batavia Mean Local Civil, for the meridian 106° 48' E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 13:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.
	W.	Mo.			W.	Mo.			W.	Mo.	
N	Th	1	6:35 20:55 -0.2 2.4	O	S	1	6:15 21:35 -0.8 2.7	P	W	1	6:05 22:30 -0.3 2.0
	F	2	6:50 21:15 -0.4 2.5		M	2	6:45 22:06 -0.8 2.6		Th	2	6:18 12:40 16:20 23:00 0.0 1.0 0.8 1.7
	S	3	7:08 21:43 -0.6 2.6		Tu	3	7:18 22:40 -0.7 2.6		F	3	6:25 13:00 17:44 23:27 0.2 1.1 0.8 1.3
	S	4	7:40 22:14 -0.8 2.7		W	4	7:45 23:10 -0.5 2.3		S	4	6:25 13:28 0.5 1.3
	M	5	8:14 22:45 -0.8 2.7		Th	5	8:20 23:32 -0.3 1.9		S	5	5:30 14:27 0.6 1.5
P	Tu	6	8:52 23:18 -0.8 2.6	E	F	6	8:25 23:24 0.1 1.5	C	M	6	2:45 16:05 0.3 1.6
	W	7	9:34 23:48 -0.7 2.3		S	7	8:34 19:34 0.2 1.3		Tu	7	2:50 17:36 0.0 1.8
	Th	8	10:10 23:58 -0.5 2.0		S	8	8:04 18:38 0.5 1.5		W	8	3:20 18:40 -0.3 1.9
	F	9	10:40 22:45 -0.1 1.6		M	9	4:10 19:06 0.4 1.7		Th	9	3:54 19:25 -0.5 2.0
	S	10	10:55 20:35 0.1 1.5		Tu	10	4:10 19:33 0.0 1.9		F	10	4:25 20:04 -0.5 2.0
E	S	11	11:05 20:05 0.4 1.7	N	W	11	4:40 20:05 -0.3 2.1	N	S	11	4:52 20:33 -0.4 1.9
	M	12	4:57 20:13 0.4 1.8		Th	12	5:14 20:30 -0.6 2.2		S	12	5:16 20:56 -0.2 1.8
	Tu	13	5:10 20:30 0.0 2.1		F	13	5:50 21:00 -0.6 2.3		M	13	5:32 21:20 0.0 1.6
	W	14	5:48 20:47 -0.3 2.3		S	14	6:25 21:20 -0.5 2.3		Tu	14	5:32 21:25 0.2 1.5
	Th	15	6:24 21:10 -0.5 2.4		S	15	6:45 21:40 -0.3 2.2		W	15	5:20 12:30 14:20 21:20 0.4 1.0 0.9 1.4
N	F	16	7:04 21:34 -0.6 2.5	●	M	16	7:04 22:00 -0.1 2.0	E	Th	16	4:44 11:48 15:40 21:27 0.4 1.1 0.9 1.2
	S	17	7:38 21:58 -0.5 2.5		Tu	17	7:12 22:10 0.0 1.8		F	17	4:30 11:25 16:40 21:05 0.5 1.2 0.9 1.1
	S	18	8:03 22:22 -0.4 2.4		W	18	7:08 22:07 0.1 1.7		S	18	4:07 11:40 0.5 1.4
	M	19	8:30 22:43 -0.3 2.2		Th	19	6:47 22:05 0.3 1.5		S	19	3:30 12:02 0.6 1.4
	Tu	20	8:50 22:55 -0.2 2.0	A	F	20	6:37 21:30 0.3 1.3		M	20	2:45 12:28 0.4 1.5
P	W	21	9:04 22:50 -0.1 1.8		S	21	6:20 20:30 0.5 1.1		Tu	21	2:26 13:15 0.3 1.6
	Th	22	9:10 22:24 0.1 1.6		S	22	5:20 18:30 0.5 1.3		W	22	2:15 15:30 0.0 1.7
	F	23	9:07 21:10 0.1 1.5		M	23	4:14 18:25 0.4 1.4		Th	23	2:25 17:10 -0.3 1.8
	S	24	9:04 20:15 0.2 1.5		Tu	24	3:44 18:20 0.2 1.6		F	24	2:45 18:10 -0.5 1.9
D	S	25	8:05 20:04 0.4 1.7	D	W	25	3:45 18:36 0.0 1.8	S	S	25	3:08 19:00 -0.6 2.0
	M	26	5:38 20:02 0.4 1.7		Th	26	3:53 19:02 -0.3 2.1		S	26	3:30 19:46 -0.6 2.0
	Tu	27	5:00 19:55 0.1 1.9		F	27	4:08 19:35 -0.5 2.2		M	27	3:55 20:30 -0.5 2.0
	W	28	5:02 20:00 -0.1 2.1		S	28	4:32 20:10 -0.7 2.3		Tu	28	4:15 11:15 14:40 21:08 -0.3 1.0 0.9 1.8
	Th	29	5:20 20:10 -0.3 2.3		S	29	4:56 20:46 -0.7 2.4		W	29	4:25 10:55 15:38 21:47 -0.1 1.2 0.8 1.6
S	F	30	5:30 20:32 -0.5 2.5	O	M	30	5:20 21:22 -0.7 2.4	P	Th	30	4:32 10:58 16:42 22:35 0.1 1.4 0.7 1.3
	S	31	5:52 21:06 -0.7 2.6		Tu	31	5:42 21:58 -0.5 2.2				

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●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	4:40 0.4	11:10 1.5	17:40 0.5	23:10 1.0	N C	M	1	11:40 2.3	23:15 -0.2	C A	W	1	11:55 2.4	23:02 -0.5	C A			
	S	2	4:40 0.5	11:40 1.6	19:36 0.6	22:50 0.7		Tu	2	12:25 2.2			Th	2	12:25 2.1	23:40 -0.4				
	S	3	3:20 0.6	12:15 1.8				W	3	0:05 -0.3	18:05 2.1		F	3	12:28 1.9					
	M	4	1:00 0.3	13:00 1.8				Th	4	0:45 -0.4	13:55 1.9		S	4	0:13 -0.3	11:18 1.7				
	Tu	5	1:05 0.0	14:05 1.9				F	5	1:20 -0.4	14:10 1.6		S	5	0:36 -0.2	9:52 1.6				
	W	6	1:55 -0.2	15:45 1.9				S	6	1:45 -0.3	17:15 1.3		M	6	0:52 0.1	9:36 1.7				
	Th	7	2:20 -0.4	17:25 1.7				S	7	2:15 -0.2	10:20 1.5		Tu	7	0:48 0.2	9:30 1.7				
	F	8	2:57 -0.4	18:30 1.7				M	8	2:25 0.1	10:24 1.6		W	8	0:46 0.4	9:28 1.8				
	S	9	3:20 -0.3	19:20 1.6				Tu	9	2:20 0.3	10:16 1.5		Th	9	0:00 0.5	9:30 1.8				
	S	10	3:44 -0.1	11:25 1.3	14:40 1.1	20:06 1.4		A E	W	10	2:20 0.5		10:10 1.6	F	10	9:15 1.9		19:30 0.0		
E A ●	M	11	3:55 0.1	11:35 1.2	15:55 1.0	20:43 1.2	E A ●	Th	11	1:10 0.6	9:55 1.6	● S	S	11	9:12 2.1	20:05 -0.1	● S			
	Tu	12	3:55 0.4	11:25 1.2	16:35 0.9	20:54 1.0		F	12	0:25 0.5	9:40 1.8		S	12	9:15 2.2	20:06 -0.1				
	W	13	3:35 0.5	10:48 1.3	16:50 0.9	21:00 1.0		S	13	9:36 1.9	22:30 0.2		M	13	9:34 2.4	20:25 -0.4				
	Th	14	3:07 0.6	10:25 1.4				S	14	9:50 2.1	22:10 0.0		Tu	14	10:05 2.5	20:48 -0.6				
	F	15	2:40 0.6	10:14 1.5				M	15	10:10 2.2	22:15 -0.2		W	15	10:30 2.6	21:20 -0.7				
	S	16	2:08 0.6	10:20 1.6				Tu	16	10:35 2.4	22:40 -0.4		Th	16	11:00 2.5	22:00 -0.7				
	S	17	1:16 0.4	10:40 1.8				W	17	11:08 2.4	23:08 -0.6		F	17	11:40 2.4	22:40 -0.7				
	M	18	1:06 0.3	11:00 1.9				Th	18	11:42 2.3	23:40 -0.7		S	18	12:00 2.2	23:15 -0.5				
	Tu	19	0:20 0.1	11:26 2.0				F	19	12:15 2.2			S	19	12:05 1.9	23:40 -0.2				
	W	20	0:35 -0.2	12:00 2.0				S	20	0:15 -0.7	12:50 2.0		M	20	10:05 1.7	23:55 0.0				
S D P	Th	21	0:45 -0.4	12:46 2.0			S D P	S	21	0:45 -0.6	12:30 1.7	D E	Tu	21	8:53 1.6		D E			
	F	22	1:15 -0.6	14:30 1.9				M	22	1:10 -0.3	10:08 1.7		W	22	0:10 0.2	8:30 1.8				
	S	23	1:42 -0.7	16:45 1.8				Tu	23	1:25 -0.1	9:24 1.6		Th	23	0:00 0.4	8:35 1.9				
	S	24	2:10 -0.6	18:08 1.7				W	24	1:40 0.1	9:11 1.7		F	24	8:45 2.2	18:16 -0.2				
	M	25	2:40 -0.4	10:40 1.3	14:00 1.2	19:10 1.5		Th	25	1:37 0.3	9:13 1.8		S	25	9:05 2.4	19:00 -0.4				
	Tu	26	2:50 -0.2	10:08 1.3	14:55 1.0	20:08 1.3		F	26	1:06 0.4	9:20 2.1		S	26	9:30 2.6	19:40 -0.5				
	W	27	2:55 0.1	9:52 1.5	15:55 0.8	21:08 1.2		S	27	9:45 2.4	19:20 -0.1		M	27	10:00 2.7	20:20 -0.5				
	Th	28	3:10 0.3	9:55 1.6	16:37 0.5	22:05 1.0		S	28	10:12 2.5	20:32 -0.8		Tu	28	10:30 2.7	20:55 -0.5				
	F	29	3:05 0.4	10:10 1.9	17:50 0.4	22:35 0.7		M	29	10:44 2.6	21:35 -0.4		W	29	11:04 2.6	21:30 -0.5				
	S	30	2:45 0.5	10:34 2.1	19:28 0.2			Tu	30	11:22 2.5	22:24 -0.5		Th	30	11:30 2.3	22:02 -0.4				
S	31	11:05 2.2	21:40 0.0								F	31	11:45 2.1	22:30 -0.2						

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.				
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.		
	W. Mo.					W. Mo.					W. Mo.			
N	F 1	5:21 1.9	11:16 0.9	18:10 2.3	N	M 1	3:06 -0.3	18:52 3.4		N	M 1	1:35 -0.1	16:50 3.3	
	S 2	0:59 0.6	7:27 1.6	11:40 1.1		Tu 2	4:08 -0.7	19:45 3.7			Tu 2	3:05 -0.5	18:16 3.3	
	S 3	2:36 0.1	9:08 1.3	11:28 1.2		W 3	4:56 -0.9	20:35 3.8			W 3	3:54 -0.7	18:26 3.4	
	M 4	3:49 -0.4	20:10 8.6			Th 4	5:36 -0.9	21:20 3.8			Th 4	4:30 -0.7	20:22 3.4	
	Tu 5	4:48 -0.8	20:49 8.9			○ F 5	6:00 -0.8	22:00 3.7			F 5	4:55 -0.6	21:10 3.3	
	W 6	5:36 -1.0	21:28 4.1			S 6	6:28 -0.6	22:35 3.6			S 6	5:16 -0.3	21:55 3.2	
	Th 7	6:18 -1.0	22:05 4.1			S 7	6:40 -0.3	23:10 3.4			○ A S 7	5:30 -0.1	11:58 1.4	15:30 1.1
	F 8	7:07 -0.9	22:40 3.9			A M 8	7:00 -0.1	13:40 1.3	16:40 1.1		M 8	5:40 0.1	12:08 1.6	16:20 0.9
	S 9	7:26 -0.8	23:11 3.8			Tu 9	7:15 0.0	13:58 1.5	17:50 1.0		E Tu 9	5:54 0.3	12:15 1.9	17:14 0.8
	S 10	7:55 -0.6	23:46 3.5			E W 10	0:10 2.8	7:30 0.2	13:42 1.8		W 10	6:08 0.5	12:20 2.1	18:05 0.7
A	M 11	8:15 -0.3			C	Th 11	0:45 2.3	7:38 0.5	14:00 2.2	C	Th 11	0:20 2.3	6:35 0.7	12:35 2.2
	Tu 12	8:19 3.1	8:39 -0.1	16:11 1.4		F 12	1:52 2.0	7:50 0.8	14:20 2.2		F 12	1:00 2.1	6:50 0.8	12:40 2.4
	W 13	0:55 2.7	8:55 0.1	16:00 1.7		○ S 13	3:24 1.7	8:01 0.9	14:47 2.5		S 13	1:48 1.6	6:48 1.0	13:11 2.7
	Th 14	1:29 2.2	9:00 0.5	16:18 2.0		S 14	4:45 1.1	8:10 1.0	15:30 2.8		S 14	13:47 3.0	22:28 0.1	
	F 15	2:53 1.8	9:24 0.7	16:45 2.1		M 15	0:32 0.3	16:30 3.1			○ M 15	14:45 3.2		
	S 16	5:02 1.4	9:33 0.8	17:02 2.4		Tu 16	2:00 -0.1	17:40 3.4			S Tu 16	0:05 -0.1	15:44 3.3	
	S 17	0:49 0.8	17:41 2.8			W 17	3:00 -0.5	18:50 3.6			W 17	1:26 -0.4	17:00 3.4	
	M 18	2:15 0.3	18:25 3.2			Th 18	3:50 -0.8	19:52 3.8			Th 18	2:35 -0.6	18:30 3.5	
	Tu 19	3:20 -0.2	19:14 3.6			F 19	4:35 -0.9	20:50 4.0			F 19	3:18 -0.6	19:50 3.5	
	W 20	4:10 -0.7	20:04 3.9			● S 20	5:10 -0.8	12:10 1.1	14:10 1.2		S 20	3:55 -0.5	10:45 1.3	13:45 1.2
P	Th 21	4:52 -1.1	20:55 4.2			P S 21	5:48 -0.7	12:20 1.2	15:25 0.9	P	S 21	4:30 -0.3	11:00 1.5	15:06 0.9
	● F 22	5:35 -1.2	21:40 4.3			M 22	6:15 -0.4	12:42 1.4	16:35 0.7		● M 22	4:57 0.0	11:20 1.8	16:15 0.5
	P S 23	6:16 -1.3	22:30 4.3			E Tu 23	6:42 0.0	13:05 1.7	17:46 0.6		Tu 23	5:22 0.3	11:40 2.1	17:10 0.2
	S 24	6:55 -1.0	14:00 1.0	15:40 0.9		W 24	0:25 3.1	7:05 0.3	13:15 2.0		W 24	6:00 0.6	11:52 2.3	18:04 0.1
	M 25	7:30 -0.8	14:20 1.2	16:56 1.0		Th 25	1:22 2.5	7:40 0.7	13:44 2.2		Th 25	0:42 2.5	6:24 0.9	12:08 2.7
	Tu 26	0:10 3.7	8:02 -0.4	14:48 1.4		F 26	2:25 2.1	8:00 0.9	14:05 2.6		F 26	1:46 1.9	6:25 1.2	12:33 3.0
	E W 27	1:06 3.2	8:30 0.0	14:55 1.8		○ S 27	4:00 1.4	7:38 1.2	14:34 2.9		S 27	3:20 1.4	6:10 1.2	13:05 3.3
	Th 28	2:00 2.6	8:52 0.4	15:28 2.2		● S 28	15:35 3.1				● S 28	13:47 3.4	23:10 -0.2	
	F 29	3:40 2.1	9:20 0.8	16:05 2.3							○ M 29	14:40 3.4		
	S 30	5:45 1.5	9:15 1.0	16:58 2.7							Tu 30	1:05 -0.3	15:45 3.2	
	S 31	1:15 0.3	17:50 3.1								W 31	2:26 -0.4	17:30 3.1	

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APRIL.										MAY.										JUNE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.		Moon.	Day of—	Time and Height of High and Low Water.	
	W. Mo.				W. Mo.				W. Mo.		
C	Th 1	7:30	16:00	C	S 1	8:36	17:14	C	P W 1	3:15	10:24
		3.2	-0.2			4.0	-1.1			0.9	3.7
	F 2	8:08	16:44		○ M 2	9:25	17:52		E Th 2	0:12	4:24
		3.5	-0.7			4.2	-1.1			1.5	0.7
	S 3	8:46	17:28		Tu 3	10:14	18:30		F 3	0:34	5:30
P		3.9	-1.0	P	W 4	11:04	19:00	P		1.8	0.6
	S 4	9:30	18:10			4.1	-0.8		S 4	0:45	6:35
		4.2	-1.3		Th 5	1:42	4:52			2.0	0.3
	M 5	10:12	18:54			1.1	0.9		S 5	1:08	7:32
		4.3	-1.4		Th 5	1:1	0.9			2.2	0.2
E	Tu 6	11:00	19:34	E	F 6	2:10	6:08	E	M 6	1:30	8:55
		4.3	-1.2			1.4	0.9			2.6	0.0
	W 7	11:45	20:15		S 7	2:12	7:34		Tu 7	2:10	10:32
		4.1	-1.0			1.8	0.8			3.0	0.0
	P Th 8	12:38	20:56		○ S 8	2:45	8:55		W 8	2:58	12:25
C		3.8	-0.6	C		2.1	0.7	C		3.2	-0.2
	F 9	4:06	6:42		M 9	3:15	10:20		N Th 9	4:04	14:24
		1.3	1.2			2.3	0.5			3.3	-0.4
	S 10	4:20	8:40		Tu 10	4:05	12:25		F 10	5:25	15:20
		1.5	1.3			2.7	0.3			3.3	-0.6
N	S 11	4:42	10:52	N	W 11	5:02	14:25	N	S 11	6:58	16:00
		2.0	1.0			3.1	-0.1			3.3	-0.7
	M 12	5:25	12:08		Th 12	6:10	15:40		S 12	8:00	16:32
		2.3	0.7			3.4	-0.6			3.3	-0.6
	Tu 13	6:06	14:00		F 13	7:16	16:35		M 13	9:00	16:57
A		2.7	0.2	A		3.6	-0.8	A		3.3	-0.4
	W 14	6:55	15:27		S 14	8:15	17:12		Tu 14	9:46	17:10
		3.2	-0.3			3.7	-0.9			3.2	-0.1
	Th 15	7:40	16:30		S 15	9:06	17:45		W 15	3:40	10:30
		3.6	-0.7			3.8	-0.9			1.1	3.0
E	F 16	8:28	17:23	E	● M 16	9:52	18:10	E	Th 16	4:30	11:08
		3.9	-1.0			3.7	-0.6			0.9	2.8
	● S 17	9:10	18:00		Tu 17	10:35	18:26		F 17	5:15	11:38
		4.0	-1.1			3.6	-0.4			0.8	2.5
	S 18	9:52	18:36		W 18	0:55	3:30		S 18	0:00	6:00
D		4.1	-1.0	D		1.2	1.1	D		2.1	0.6
	M 19	10:35	19:10		Th 19	1:10	4:35		S 19	0:10	6:35
		4.0	-0.9			1.4	1.1			2.2	0.4
	Tu 20	11:10	19:36		F 20	1:20	5:48		M 20	0:18	7:32
		3.8	-0.6			1.6	1.2			2.5	0.3
A	W 21	11:45	19:58	A	S 21	1:30	6:52	A	Tu 21	0:48	8:44
		3.6	-0.4			1.8	1.0			2.7	0.1
	Th 22	12:06	20:20		S 22	1:38	7:53		W 22	1:26	10:00
		3.2	-0.1			2.2	0.8			3.0	0.0
	F 23	3:30	6:18		M 23	1:50	8:40		Th 23	2:15	11:30
E		1.4	1.8	E		2.1	0.7	E		3.1	-0.2
	S 24	3:28	7:46		Tu 24	2:20	10:14		F 24	3:10	12:50
		1.6	1.3			2.4	0.6			3.2	-0.4
	S 25	3:40	9:36		W 25	3:04	12:05		S 25	4:20	14:00
		2.0	1.3			2.7	0.4			3.2	-0.5
D	M 26	4:10	10:32	D	Th 26	3:56	13:32	D	S 26	5:50	14:45
		2.1	1.2			2.9	0.0			3.3	-0.6
	Tu 27	4:30	12:28		S F 27	5:06	14:36		M 27	7:20	15:25
		2.3	0.9			3.2	-0.4			3.3	-0.6
	W 28	5:08	14:08		S 28	6:20	15:28		Tu 28	1:40	8:35
C		2.7	0.4	C		3.4	-0.7	C		1.3	3.3
	Th 29	6:00	15:06		S 29	7:28	16:10		W 29	2:58	9:36
		3.0	-0.1			3.6	-0.8			1.0	3.2
	F 30	6:54	15:55		M 30	8:33	16:45		Th 30	4:00	10:35
		3.4	-0.5			3.7	-0.9			0.5	3.1
S	S 31	7:45	16:36	S	○ Tu 31	9:30	17:20	S			
		3.7	-0.8			3.8	-0.7				

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OCTOBER.							NOVEMBER.							DECEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	4:54 0.2	11:30 2.9	17:33 0.6	23:20 2.3	M A E	M	1	7:02 -1.0	23:30 3.8			S D E P	W	1	8:10 -1.2	23:54 4.1		
	S	2	5:42 0.0	12:26 2.6	17:50 0.9	23:40 2.7		Tu	2	8:06 -1.0					Th	2	9:02 -1.0			
	S	3	6:44 -0.3	13:38 2.0	17:54 1.1			W	3	9:08 3.9	9:14 -0.9				F	3	9:30 3.8	9:52 -0.7		
	M	4	0:07 3.1	7:54 -0.5	15:00 1.5	17:40 1.3		Th	4	0:52 3.8	10:24 -0.8				S	4	1:12 3.4	10:38 -0.5		
	Tu	5	0:40 3.4	9:10 -0.5				F	5	1:36 3.6	11:30 -0.5				S	5	1:58 3.0	11:10 -0.2		
	W	6	1:20 3.5	10:37 -0.5				S	6	2:25 3.2	12:30 -0.4				M	6	2:48 2.4	11:40 0.1		
	Th	7	2:10 3.5	12:18 -0.4				S	7	3:37 2.8	13:04 -0.1				Tu	7	4:35 1.9	12:00 0.6	19:25 2.2	
	F	8	3:10 3.3	13:45 -0.4				M	8	5:40 2.4	13:40 0.1	20:56 1.8			W	8	1:40 1.2	7:12 1.6	12:40 0.8	19:55 2.3
	S	9	4:35 3.1	14:35 -0.4				Tu	9	1:10 1.6	7:20 2.1	14:00 0.4	21:00 2.2		Th	9	2:30 0.9	8:50 1.6	12:50 0.9	20:05 2.5
	S	10	6:35 2.9	15:10 -0.2				W	10	2:46 1.1	8:36 2.0	14:40 0.7	21:08 2.2		F	10	3:20 0.5	9:50 1.3	12:45 1.1	20:17 2.9
	M	11	7:48 2.8	15:30 0.0	22:25 1.6			Th	11	3:22 0.7	9:50 2.0	15:04 0.9	21:15 2.4		S	11	4:05 0.1	10:50 1.2	13:00 1.1	20:34 3.2
E A	Tu	12	2:10 1.3	8:46 2.6	15:45 0.2	22:24 2.0	S D	F	12	3:55 0.4	10:35 1.8	15:00 1.1	21:24 2.7	S	12	4:45 -0.3	21:00 3.5			
	W	13	3:28 1.0	9:40 2.5	15:56 0.4	22:25 2.2		S	13	4:38 0.0	11:28 1.6	15:05 1.2	21:34 3.1	M	13	5:23 -0.7	21:32 3.8			
	Th	14	4:10 0.7	10:26 2.3	16:35 0.6	22:30 2.2		S	14	5:20 -0.3	12:24 1.5	15:02 1.2	21:58 3.3	Tu	14	6:05 -1.0	22:10 4.0			
	F	15	4:42 0.5	11:05 2.2	16:42 0.8	22:34 2.4		M	15	6:06 -0.6	22:30 3.6			W	15	6:50 -1.2	22:50 4.2			
	S	16	5:12 0.2	11:45 2.0	16:45 0.9	22:40 2.7		Tu	16	6:55 -0.7	23:05 3.8			Th	16	7:35 -1.3	23:33 4.1			
	S	17	5:58 -0.1	12:35 1.7	16:45 1.1	23:05 3.0		W	17	7:42 -1.0	23:46 3.9			F	17	8:20 -1.2				
	M	18	6:46 -0.3	13:52 1.4	16:36 1.2	23:34 3.2		Th	18	8:36 -1.0				S	18	9:20 3.9	9:05 -1.0			
	Tu	19	7:41 -0.4					F	19	9:28 3.8	9:30 -1.0			S	19	1:10 3.6	9:46 -0.7			
	W	20	0:06 3.4	8:42 -0.5				S	20	1:17 3.7	10:30 -0.8			M	20	2:10 3.1	10:28 -0.3	17:50 1.6	21:35 1.5	
	Th	21	0:48 3.5	9:50 -0.6				S	21	2:15 3.3	11:20 -0.6			Tu	21	3:25 2.6	10:58 0.1	18:00 2.1		
	D P O	F	22	1:35 3.5	11:02 -0.7				M	22	3:30 2.9	12:07 -0.3	19:40 1.7	23:40 1.6	W	22	0:02 1.1	5:40 2.0	11:44 0.7	18:55 2.2
S		23	2:35 3.4	12:10 -0.7				Tu	23	5:16 2.6	12:30 0.0	19:42 2.1		Th	23	1:08 0.6	7:50 1.9	12:10 1.0	19:05 2.7	
S		24	3:50 3.2	13:08 -0.5				W	24	1:30 1.1	7:20 2.3	13:30 0.5	20:05 2.3	F	24	2:40 0.1	9:18 1.6	12:20 1.3	19:44 3.2	
M		25	5:25 3.0	13:54 -0.4	21:04 1.7			Th	25	2:17 0.5	8:46 2.2	14:11 0.8	20:27 2.7	S	25	3:48 -0.4	20:20 3.7			
Tu		26	1:00 1.6	7:15 2.9	14:30 -0.1	21:12 1.8		F	26	3:26 -0.1	8:50 1.7	14:25 1.2	20:50 3.1	S	26	4:48 -0.9	21:00 4.0			
W		27	2:30 1.0	8:40 2.7	15:00 0.2	21:20 2.3		S	27	4:30 -0.6	11:18 1.6	14:27 1.3	21:20 3.6	M	27	5:42 -1.1	21:40 4.2			
Th		28	3:27 0.5	9:46 2.6	15:50 0.5	21:40 2.4		S	28	5:25 -0.9	21:55 4.0			Tu	28	6:38 -1.2	22:20 4.3			
F		29	4:08 0.1	10:47 2.5	16:05 0.9	22:00 2.8		M	29	6:22 -1.2	22:32 4.2			W	29	7:15 -1.2	23:05 4.2			
S		30	5:05 -0.5	12:02 2.1	16:15 1.2	22:24 3.2		Tu	30	7:14 -1.3	23:14 4.2			Th	30	7:55 -1.1	23:45 4.0			
S	31	6:05 -0.8	13:05 1.8	16:15 1.1	22:55 3.6								F	31	8:34 -0.8					

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JANUARY.						FEBRUARY.						MARCH.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
	F	1	0:22	7:07	11:45	17:37		M	1	1:38	9:15	13:42	18:45	N	M	1	0:22	8:12	13:00	17:36
			1.5	0.4	0.8	—0.1				2.0	0.2	0.5	0.0			1.8	0.2	0.5	0.2	
	S	2	1:07	8:17	12:46	18:22	N	Tu	2	2:20	9:52	14:31	19:34		Tu	2	1:13	8:47	13:49	18:37
			1.8	0.3	0.7	—0.1				2.1	0.1	0.5	0.0			1.9	0.1	0.5	0.1	
	S	3	1:54	9:17	13:42	19:02		W	3	2:58	10:24	15:13	20:17		W	3	1:56	9:14	14:30	19:32
			2.0	0.3	0.6	—0.2				2.1	0.1	0.5	0.0			1.9	0.1	0.6	0.1	
	M	4	2:36	10:06	14:30	19:44	O	Th	4	3:38	10:52	15:50	20:57		Th	4	2:32	9:38	15:02	20:17
			2.2	0.2	0.6	—0.1				2.1	0.1	0.6	0.0			1.9	0.0	0.7	0.1	
N	Tu	5	3:17	10:48	15:14	20:22		F	5	4:03	11:13	16:26	21:36		F	5	3:03	9:56	15:33	21:00
			2.2	0.2	0.5	—0.1				2.0	0.0	0.7	0.1			1.8	0.0	0.9	0.1	
O	W	6	3:53	11:28	15:57	20:57		S	6	4:32	11:32	17:05	22:14	O A	S	6	3:31	10:11	16:05	21:38
			2.2	0.3	0.5	—0.1				1.8	0.0	0.8	0.2			1.7	0.0	1.0	0.2	
	Th	7	4:27	12:03	16:42	21:34	A	S	7	4:58	11:53	17:45	22:54		S	7	3:58	10:32	16:37	22:17
			2.1	0.2	0.5	0.0				1.7	0.0	0.9	0.3			1.6	0.0	1.1	0.2	
	F	8	4:59	12:32	17:28	22:10		M	8	5:27	12:19	18:28	23:42	E	M	8	4:31	10:51	17:04	23:00
			2.0	0.1	0.6	0.1				1.6	0.0	1.0	0.4			1.5	0.0	1.2	0.3	
	S	9	5:30	12:55	18:20	22:48	E	Tu	9	6:00	12:43	19:05	24:00		Tu	9	4:58	11:11	17:38	23:42
			1.9	0.1	0.6	0.3				1.4	0.0	1.1	0.0			1.3	0.0	1.3	0.3	
	S	10	6:02	13:27	19:18	23:35		W	10	0:42	6:27	13:10	20:00		W	10	5:31	11:43	18:19	24:00
			1.7	0.1	0.7	0.4				0.5	1.2	0.1	1.2			1.2	0.0	1.4	0.0	
A	M	11	6:33	13:57	20:22	24:00		Th	11	1:54	7:02	13:45	21:05		Th	11	0:30	6:00	12:10	19:08
			1.6	0.0	0.7	0.0				0.6	1.0	0.1	1.3			0.5	1.0	0.1	1.4	
	Tu	12	0:40	7:12	14:27	21:19		F	12	3:38	7:45	14:28	22:17		F	12	1:38	6:32	12:38	20:07
			0.6	1.4	0.0	0.9				0.6	0.8	0.1	1.4			0.6	0.8	0.1	1.4	
E	W	13	2:08	7:45	15:58	22:15	C	S	13	6:00	8:47	15:20	23:23		S	13	3:20	7:07	13:18	21:18
			0.7	1.2	0.1	1.1				0.6	0.7	0.1	1.6			0.6	0.7	0.1	1.5	
C	Th	14	3:57	8:28	15:35	23:15		S	14	7:27	10:35	16:20	24:00	C	S	14	5:55	8:02	14:15	22:37
			0.7	1.0	0.0	1.3				0.5	0.6	0.1	0.0			0.5	0.6	0.2	1.6	
	F	15	5:55	9:35	16:18	24:00		M	15	0:20	8:15	12:11	17:24	S	M	15	7:00	11:00	15:45	23:44
			0.7	0.8	0.0	0.0				1.8	0.4	0.5	0.0			0.4	0.5	0.2	1.7	
	S	16	0:05	7:23	10:52	17:05	S	Tu	16	1:10	8:51	13:17	18:25		Tu	16	7:38	12:23	17:12	24:00
			1.5	0.6	0.7	0.0				1.9	0.3	0.5	0.0			0.3	0.5	0.2	0.0	
	S	17	0:53	8:25	12:07	17:52		W	17	1:56	9:23	14:06	19:23		W	17	0:40	8:10	13:21	18:27
			1.7	0.5	0.6	0.0				2.0	0.1	0.6	0.0			1.8	0.1	0.6	0.1	
	M	18	1:35	9:11	13:12	18:38		Th	18	2:39	9:52	14:53	20:15		Th	18	1:30	8:34	14:04	19:28
			1.9	0.3	0.6	—0.1				2.1	0.0	0.7	0.0			1.8	0.0	0.8	0.1	
	Tu	19	2:16	9:52	14:07	19:23		F	19	3:18	10:18	15:37	21:07		F	19	2:15	9:01	14:44	20:23
			2.1	0.2	0.6	—0.1				2.0	0.0	0.8	0.0			1.8	0.0	1.0	0.0	
S	W	20	2:56	10:27	14:55	20:10	P	S	20	3:57	10:45	16:20	21:57		S	20	2:54	9:27	15:24	21:16
			2.1	0.2	0.7	—0.1				2.0	—0.1	1.0	0.0			1.8	—0.1	1.2	0.0	
●	Th	21	3:35	11:00	15:44	20:58		S	21	4:35	11:12	17:04	22:50	P ●	S	21	3:33	9:54	16:03	22:07
			2.2	0.1	0.7	—0.1				1.8	—0.1	1.1	0.1			1.7	—0.1	1.4	0.0	
	F	22	4:15	11:29	16:32	21:47	E	M	22	5:13	11:43	17:52	23:47		M	22	4:18	10:30	16:43	22:56
			2.2	0.0	0.7	—0.1				1.6	—0.1	1.2	0.2			1.5	0.0	1.5	0.0	
P	S	23	4:56	12:02	17:22	22:37		Tu	23	5:58	12:18	18:37	24:00		Tu	23	4:57	10:58	17:22	23:49
			2.1	0.0	0.7	0.1				1.4	0.0	1.3	0.0			1.4	0.0	1.5	0.2	
	S	24	5:36	12:37	18:17	23:35		W	24	0:47	6:40	12:58	19:38		W	24	5:33	11:27	18:10	24:00
			1.9	0.0	0.8	0.2				0.3	1.2	0.0	1.4			1.1	0.0	1.6	0.0	
	M	25	6:17	13:12	19:20	24:00		Th	25	2:08	7:24	13:33	20:50		Th	25	0:52	6:12	11:57	19:07
			1.7	0.0	1.0	0.0				0.4	0.9	0.1	1.5			0.3	0.9	0.0	1.6	
E	Tu	26	0:43	7:02	13:50	20:15	D	F	26	4:08	8:20	14:20	22:07		F	26	2:16	6:58	12:32	20:10
			0.3	1.5	0.0	1.1				0.5	0.7	0.1	1.6			0.4	0.7	0.1	1.6	
	W	27	2:10	7:55	14:27	21:30		S	27	6:06	9:18	15:18	23:22		S	27	4:17	7:47	13:13	21:23
			0.5	1.2	0.1	1.3				0.5	0.6	0.1	1.7			0.4	0.6	0.2	1.6	
D	Th	28	3:55	8:50	15:14	22:45		S	28	7:26	11:37	16:28	24:00	N	S	28	5:58	9:10	14:20	22:38
			0.6	0.9	0.1	1.5				0.3	0.4	0.2	0.0			0.3	0.4	0.3	1.6	
	F	29	5:52	9:58	16:07	23:55										6:57	10:30	15:53	23:43	
			0.6	0.7	0.0	1.7										0.2	0.4	0.3	1.6	
	S	30	7:26	11:18	17:00	24:00										7:32	12:46	17:27	24:00	
			0.5	0.6	0.0	0.0										0.1	0.6	0.4	0.0	
	S	31	0:50	8:28	12:38	17:53										0:35	8:00	13:44	18:37	
			1.9	0.3	0.5	0.1										1.6	0.1	0.7	0.3	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Hawaiian Government Survey Charts for this region, and which is 0.7 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Hawaiian Standard, 157° 30' W; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
A	Th	1	1:16	8:16	14:11	19:30				S	1	1:11	7:36	14:09	20:10					Tu	1	1:34	7:31	14:45	21:44				
			1.6	0.0	0.9	0.3							1.3	0.0	1.3	0.3							0.8	-0.1	1.8	0.3			
	F	2	1:52	8:34	14:40	20:16				E	S	2	1:47	7:54	14:36	20:52				W	2	2:16	7:56	15:18	22:30				
			1.6	0.0	1.1	0.2							1.2	0.0	1.5	0.3							0.8	-0.1	1.9	0.3			
	S	3	2:24	8:53	15:09	20:57				M	3	2:18	8:21	15:05	21:35					Th	3	2:55	8:26	15:52	23:15				
E			1.5	0.0	1.2	0.2							1.1	-0.1	1.6	0.2				○			0.7	-0.2	2.0	0.2			
	S	4	3:02	9:14	15:30	21:36				Tu	4	2:50	8:45	15:36	22:16					F	4	3:34	8:58	16:30	23:56				
			1.4	0.0	1.3	0.2							1.0	-0.1	1.7	0.3				S			0.6	-0.2	2.1	0.2			
	M	5	3:26	9:39	15:58	22:12			○	W	5	3:22	9:06	16:08	23:00					S	5	4:19	9:31	17:10					
			1.3	0.0	1.5	0.2							0.9	-0.1	1.8	0.3							0.6	-0.2	2.1				
C	Tu	6	3:58	10:00	16:31	22:51				Th	6	3:54	9:31	16:45	23:51					S	6	0:48	5:07	10:10	17:52				
			1.2	0.0	1.5	0.2							0.8	-0.2	1.9	0.3							0.3	0.5	-0.1	2.1			
	W	7	4:26	10:20	17:06	23:40				F	7	4:30	10:00	17:35						M	7	1:35	6:15	10:55	18:40				
			1.1	0.0	1.6	0.3							0.7	-0.1	1.9								0.1	0.5	0.1	1.9			
	Th	8	4:56	10:44	17:47					S	8	0:48	5:10	10:28	18:10					Tu	8	2:27	7:29	11:52	19:31				
S			1.0	0.0	1.7								0.3	0.6	-0.1	1.9							0.1	0.5	0.2	1.8			
	F	9	0:36	5:30	11:10	18:32			S	S	9	1:54	6:00	11:04	19:00					W	9	3:15	8:57	13:16	20:29				
			0.4	0.8	0.0	1.7							0.3	0.5	0.0	1.9							0.1	0.6	0.4	1.5			
	S	10	1:47	6:04	11:40	19:28				M	10	3:06	7:36	11:53	20:01					Th	10	3:59	10:27	15:08	21:31				
			0.4	0.7	0.1	1.7							0.2	0.4	0.2	1.8				○			0.0	0.8	0.5	1.4			
C	S	11	3:25	6:15	12:18	20:34				Tu	11	4:12	9:20	13:11	21:07					F	11	4:41	11:26	17:01	22:45				
			0.4	0.5	0.2	1.6							0.2	0.5	0.3	1.6							0.0	1.1	0.5	1.2			
	M	12	5:11	8:48	13:30	21:50			○	W	12	5:01	11:01	15:12	22:15					S	12	5:20	12:15	18:30	23:47				
			0.3	0.4	0.3	1.6							0.1	0.7	0.4	1.5				E			0.0	1.3	0.4	1.0			
	Tu	13	6:05	11:15	15:23	23:00				Th	13	5:41	12:00	17:08	23:20					S	13	6:00	13:06	19:46					
P			0.2	0.5	0.3	1.6							0.0	0.9	0.5	1.4							-0.1	1.6	0.3				
	W	14	6:40	12:22	17:08					F	14	6:17	12:48	18:31						M	14	0:43	6:37	13:51	20:50				
			0.1	0.7	0.3								0.0	1.2	0.4								0.9	-0.1	1.9	0.2			
	Th	15	0:08	7:11	13:08	18:28			E	S	15	0:28	6:50	13:23	19:35					Tu	15	1:35	7:15	14:36	21:48				
			1.6	0.0	0.9	0.3							1.8	0.0	1.4	0.2							0.9	-0.2	2.1	0.2			
E	F	16	0:56	7:40	13:50	19:35			P	S	16	1:19	7:22	14:06	20:36					W	16	2:21	7:53	15:21	22:40				
			1.6	0.0	1.1	0.2							1.2	-0.1	1.6	0.1							0.7	-0.2	2.2	0.2			
	S	17	1:43	8:08	14:23	20:30				M	17	2:04	7:56	14:50	21:34					Th	17	3:06	8:28	15:58	23:30				
			1.6	-0.1	1.4	0.1							1.1	-0.1	1.8	0.1				●			0.6	-0.2	2.2	0.1			
	S	18	2:34	8:44	15:00	21:17				Tu	18	2:45	8:27	15:28	22:29					F	18	3:47	9:02	16:37					
C			1.4	0.0	1.5	0.0							0.9	-0.2	2.0	0.1				N			0.6	-0.1	2.2				
	M	19	3:13	9:14	15:40	22:08			●	W	19	3:24	8:58	16:10	23:25					S	19	0:17	4:30	9:36	17:15				
			1.3	-0.1	1.7	0.0							0.8	-0.2	2.1	0.2							0.1	0.5	-0.1	2.1			
	Tu	20	3:50	9:40	16:21	23:04				Th	20	4:04	9:28	16:52						S	20	1:01	5:25	10:12	17:50				
			1.2	-0.1	1.8	0.1							0.7	-0.2	2.1								0.1	0.5	0.0	2.0			
P	W	21	4:25	10:08	17:05					F	21	0:22	4:50	10:00	17:33					M	21	1:40	6:25	10:50	18:28				
			1.0	-0.1	1.8								0.2	0.6	-0.1	2.0							0.1	0.5	0.2	1.8			
	Th	22	0:05	5:01	10:37	17:50			N	S	22	1:22	5:33	10:28	18:18					Tu	22	2:10	7:38	11:28	19:01				
			0.2	0.8	-0.1	1.9							0.3	0.5	0.0	1.9							0.1	0.5	0.3	1.6			
	F	23	1:11	5:44	11:05	18:40				S	23	2:24	6:35	11:08	19:01					W	23	2:46	9:00	12:24	19:59				
N			0.3	0.6	0.0	1.8							0.2	0.4	0.2	1.8							0.1	0.6	0.5	1.5			
	S	24	2:37	6:36	11:35	19:37				M	24	3:21	7:50	11:34	19:50					Th	24	3:22	10:21	14:00	20:25				
			0.3	0.6	0.1	1.7							0.2	0.4	0.3	1.7							0.1	0.8	0.7	1.3			
	S	25	4:07	7:35	12:08	20:35				Tu	25	4:07	10:04	12:30	20:38					F	25	3:58	11:22	15:58	21:13				
			0.3	0.5	0.2	1.6							0.1	0.5	0.4	1.5				A			0.1	1.0	0.7	1.1			
D	M	26	5:17	10:21	13:10	21:40			D	W	26	4:43	11:31	14:35	21:30					S	26	4:26	11:57	17:46	22:03				
			0.2	0.4	0.3	1.5							0.1	0.7	0.6	1.4							0.1	1.1	0.7	0.9			
	Tu	27	6:00	12:20	15:19	22:45				Th	27	5:15	12:17	16:42	22:30					S	27	4:57	12:38	19:11	23:02				
			0.1	0.6	0.5	1.5							0.1	0.9	0.7	1.2							0.0	1.4	0.6	0.8			
	W	28	6:27	12:47	17:11	23:40			A	F	28	5:42	12:50	18:10	23:29					M	28	5:31	13:13	20:15					
A			0.1	0.7	0.5	1.4							0.0	1.1	0.7	1.1							0.0	1.6	0.5				
	Th	29	6:51	13:19	18:27				E	S	29	6:10	13:12	19:14					Tu	29	0:05	6:11	13:49	21:07					
			0.1	0.9	0.5								0.0	1.3	0.5								0.8	-0.1	1.8	0.4			
	F	30	0:22	7:11	13:48	19:23				S	30	0:14	6:32	13:43	20:08					W	30	1:00	6:48	14:25	21:51				
			1.3	0.0	1.1	0.4							1																

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N	Th	1	1:45 0.7	7:25 -0.1	15:00 2.1	22:31 0.2	○	S	1	3:24 0.6	8:41 -0.2	15:58 2.1	23:08 0.0	E	W	1	4:38 1.2	10:28 0.0	16:48 1.6	23:12 -0.1									
	F	2	2:40 0.7	8:00 -0.2	15:37 2.2	23:12 0.1		M	2	4:06 0.7	9:30 -0.1	16:37 2.1	23:36 0.0		Th	2	5:21 1.3	11:24 0.1	17:34 1.4	23:48 0.0									
	S	3	3:20 0.6	8:41 -0.2	16:15 2.2	23:45 0.1	P	Tu	3	4:53 0.8	10:20 0.0	17:14 1.9			F	3	6:04 1.4	12:15 0.2	18:13 1.2										
	S	4	4:16 0.6	9:25 -0.1	16:54 2.2			W	4	0:07 0.0	5:46 0.9	11:13 0.1	17:53 1.7		S	4	0:20 0.0	7:00 1.5	13:28 0.4	18:54 1.0									
	M	5	0:22 0.0	5:00 0.6	10:11 -0.1	17:34 2.1	E	Th	5	0:41 0.0	6:43 1.0	12:15 0.3	18:35 1.5		S	5	0:57 0.0	8:08 1.5	15:11 0.5	19:42 0.8									
P	Tu	6	0:56 0.0	6:05 0.6	11:03 0.1	18:18 1.9		F	6	1:15 0.0	7:35 1.2	13:33 0.4	19:23 1.2	○	M	6	1:41 0.1	9:26 1.6	17:27 0.5	21:00 0.6									
	W	7	1:37 0.0	7:06 0.7	12:04 0.2	19:02 1.7		S	7	1:52 0.0	8:45 1.3	15:07 0.5	20:15 0.9		Tu	7	2:38 0.1	10:45 1.7	18:58 0.3	22:47 0.5									
	Th	8	2:16 0.0	8:25 0.8	13:24 0.4	19:51 1.4	○	S	8	2:38 0.0	10:05 1.5	17:11 0.5	21:18 0.8	N	W	8	3:52 0.2	11:52 1.8	19:50 0.2										
	F	9	2:58 0.0	9:31 1.0	15:07 0.5	20:54 1.2		M	9	3:30 0.0	11:21 1.6	18:59 0.5	22:43 0.6		Th	9	0:36 0.6	5:10 0.2	12:48 1.8	20:22 0.1									
	S	10	3:40 0.0	10:41 1.2	17:00 0.6	21:57 1.0		Tu	10	4:30 0.0	12:25 1.8	20:09 0.3			F	10	1:31 0.6	6:18 0.1	13:34 1.9	20:50 0.1									
N	S	11	4:23 0.0	11:50 1.5	18:41 0.6	23:06 0.7		W	11	0:03 0.5	5:30 0.0	13:18 2.0	20:57 0.2		S	11	2:11 0.7	7:19 0.1	14:14 1.8	21:16 0.0									
	M	12	5:11 -0.1	12:48 1.8	20:00 0.4		N	Th	12	1:24 0.5	6:27 0.0	14:05 2.1	21:34 0.1		S	12	2:46 0.8	8:08 0.1	14:48 1.8	21:34 0.0									
	Tu	13	0:16 0.8	5:58 -0.1	13:37 2.0	21:02 0.2		F	13	2:16 0.5	7:21 -0.1	14:44 2.1	22:05 0.1		M	13	3:17 1.0	8:52 0.1	15:16 1.7	21:50 0.0									
	W	14	1:13 0.6	6:45 -0.1	14:22 2.1	21:52 0.2		S	14	2:59 0.6	8:09 0.0	15:21 2.1	22:32 0.1	●	Tu	14	3:50 1.1	9:31 0.1	15:44 1.5	22:09 0.0									
	Th	15	2:10 0.6	7:30 -0.1	15:05 2.2	22:34 0.2	●	S	15	3:36 0.7	8:53 0.0	15:53 2.0	22:56 0.0	E	W	15	4:22 1.2	10:11 0.2	16:19 1.4	22:31 0.0									
N	F	16	3:00 0.5	8:12 -0.1	15:43 2.2	23:12 0.1		M	16	4:12 0.8	9:34 0.1	16:21 1.8	23:13 0.0		Th	16	4:46 1.3	10:50 0.2	16:44 1.3	22:55 0.0									
	S	17	3:37 0.5	8:52 -0.1	16:20 2.1	23:45 0.0		Tu	17	4:50 0.9	10:12 0.2	16:48 1.7	23:33 0.0		F	17	5:21 1.4	11:28 0.3	17:11 1.2	23:17 0.0									
	S	18	4:28 0.6	9:31 -0.1	16:51 2.0			W	18	5:28 1.0	10:50 0.3	17:15 1.6	23:57 0.0		S	18	6:00 1.4	12:16 0.4	17:36 1.0	23:43 0.0									
	M	19	0:15 0.0	5:12 0.6	10:10 0.1	17:21 1.9	A	Th	19	6:08 1.1	11:37 0.3	17:46 1.4			S	19	6:46 1.5	13:19 0.6	18:04 0.8										
	Tu	20	0:42 0.1	6:00 0.7	10:50 0.2	17:51 1.7		F	20	0:17 0.0	6:43 1.1	12:29 0.5	18:10 1.2		M	20	0:06 0.1	7:39 1.5	14:51 0.6	18:34 0.7									
A	W	21	1:05 0.1	6:52 0.7	11:33 0.4	18:19 1.6		S	21	0:43 0.0	7:34 1.2	13:31 0.6	18:39 1.0		Tu	21	0:38 0.1	8:42 1.5	17:30 0.5	19:20 0.6									
	Th	22	1:33 0.0	7:51 0.8	12:27 0.6	18:52 1.4		S	22	1:16 0.1	8:37 1.3	15:05 0.7	19:08 0.8	D	W	22	1:25 0.2	9:54 1.6	18:40 0.4	21:30 0.5									
	F	23	2:01 0.0	8:41 0.9	13:45 0.7	19:23 1.2	D	M	23	1:54 0.1	9:46 1.4	17:46 0.6	19:39 0.7	S	Th	23	2:50 0.2	11:00 1.6	19:11 0.2										
	S	24	2:30 0.1	9:48 1.1	15:26 0.7	19:51 1.0		Tu	24	2:43 0.1	10:58 1.5	19:20 0.5	21:04 0.6		F	24	0:02 0.5	4:30 0.2	12:03 1.7	19:37 0.1									
	S	25	3:06 0.1	10:52 1.8	17:31 0.7	20:40 0.8		W	25	3:40 0.1	11:58 1.7	20:01 0.3	23:40 0.5		S	25	0:57 0.7	6:54 0.2	12:50 1.7	20:02 0.1									
D	M	26	3:49 0.0	11:50 1.5	19:25 0.6	22:04 0.7	S	Th	26	4:52 0.1	12:48 1.8	20:32 0.2			S	26	1:39 0.8	7:00 0.1	13:41 1.7	20:28 0.0									
	Tu	27	4:38 0.0	12:39 1.7	20:22 0.5	23:31 0.6		F	27	0:56 0.5	6:01 0.1	13:32 1.9	21:00 0.1	M	27	2:18 1.0	7:58 0.1	14:22 1.7	20:53 0.0										
	W	28	5:30 0.0	13:24 1.9	21:05 0.3			S	28	1:48 0.6	7:02 0.0	14:18 2.0	21:28 0.0	Tu	28	2:56 1.2	8:50 0.0	15:03 1.6	21:20 -0.1										
	Th	29	0:47 0.5	6:18 0.0	14:02 2.0	21:37 0.3		S	29	2:32 0.7	7:55 0.0	14:55 2.0	21:50 0.0	W	29	3:32 1.4	9:42 0.0	15:50 1.4	21:56 -0.1										
	F	30	1:48 0.5	7:05 -0.1	14:42 2.1	22:10 0.1	○	M	30	3:14 0.9	8:47 0.0	15:34 1.9	22:17 0.0	Th	30	4:09 1.5	10:27 0.0	16:27 1.3	22:23 -0.1										
S	S	31	2:38 0.6	7:55 -0.1	15:20 2.1	22:40 0.0	P	Tu	31	3:55 1.0	9:37 0.0	16:11 1.8	22:43 -0.1																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Hawaiian Government Survey Charts for this region, and which is 0.7 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Hawaiian Standard, 157° 30' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	4:50 1.6	11:21 0.1	17:04 1.1	22:53 0.0	M	1	6:10 1.9	14:01 0.3	18:05 0.5	23:11 0.0	W	1	6:36 1.9	14:42 0.1	19:30 0.4	23:25 0.2		
	S	2	5:37 1.7	12:24 0.2	17:42 0.9	23:23 0.0	Tu	2	7:03 1.8	15:23 0.3	19:30 0.4	23:46 0.2	Th	2	7:21 1.7	15:24 0.1	21:11 0.5			
	S	3	6:30 1.7	13:41 0.4	18:26 0.7	23:55 0.1	W	3	8:00 1.7	16:33 0.2	21:15 0.4		F	3	8:24 0.4	8:08 1.5	16:06 0.1	22:46 0.7		
	M	4	7:29 1.7	15:30 0.4	19:26 0.6		Th	4	9:40 0.3	9:01 1.6	17:22 0.1	23:26 0.6	S	4	2:06 0.6	9:00 1.4	16:42 0.1	23:47 0.9		
	Tu	5	8:34 0.1	8:40 1.7	17:18 0.2	20:48 0.5	F	5	2:37 0.5	10:06 1.5	17:55 0.1		S	5	4:12 0.7	10:01 1.2	17:14 0.0			
	W	6	1:32 0.3	9:54 1.6	18:21 0.2	23:28 0.5	S	6	0:21 0.8	4:41 0.6	11:06 1.4	18:21 0.0	M	6	0:29 1.1	5:52 0.7	11:00 1.1	17:41 0.0		
	Th	7	3:19 0.3	11:16 1.6	19:08 0.1		S	7	0:59 1.0	6:08 0.5	11:56 1.3	18:46 0.0	Tu	7	0:57 1.3	7:00 0.6	11:48 1.0	18:47 0.0		
	F	8	0:48 0.6	5:01 0.4	12:12 1.6	19:35 0.1	M	8	1:30 1.2	7:11 0.5	12:49 1.2	19:09 0.0	W	8	1:28 1.5	8:00 0.5	12:30 0.8	18:57 -0.1		
	S	9	1:26 0.7	6:19 0.4	12:57 1.6	19:52 0.0	Tu	9	1:54 1.3	7:58 0.4	13:24 1.1	19:29 0.0	Th	9	2:00 1.7	8:52 0.5	13:12 0.7	19:09 -0.1		
	S	10	1:58 1.0	7:20 0.3	13:34 1.5	20:12 0.0	W	10	2:22 1.5	8:45 0.3	13:55 1.0	19:57 -0.1	F	10	2:32 1.8	9:40 0.4	13:53 0.7	19:38 -0.1		
E A	M	11	2:28 1.1	8:09 0.3	14:18 1.4	20:33 0.0	Th	11	2:51 1.7	9:28 0.3	14:28 1.0	20:20 -0.1	S	11	3:04 1.9	10:23 0.3	14:33 0.7	20:16 -0.1		
	Tu	12	2:54 1.3	8:52 0.2	14:48 1.3	20:57 0.0	F	12	3:20 1.8	10:10 0.3	15:00 0.9	20:45 -0.1	S	12	3:36 2.0	11:06 0.3	15:10 0.7	20:38 -0.2		
	W	13	3:18 1.4	9:31 0.2	15:15 1.2	21:19 0.0	S	13	3:52 1.9	10:50 0.3	15:33 0.8	21:06 -0.1	M	13	4:13 2.1	11:46 0.2	15:55 0.6	21:12 -0.1		
	Th	14	3:48 1.5	10:08 0.2	15:41 1.2	21:39 0.0	S	14	4:30 1.9	11:38 0.3	16:08 0.7	21:32 -0.1	Tu	14	4:49 2.1	12:25 0.2	16:47 0.5	21:51 -0.1		
	F	15	4:19 1.6	10:47 0.3	16:09 1.0	22:00 0.0	M	15	5:00 2.0	12:28 0.3	16:47 0.6	22:00 -0.1	W	15	5:29 2.1	13:05 0.2	17:45 0.5	22:35 0.0		
	S	16	4:53 1.7	11:32 0.3	16:36 0.9	22:21 0.0	Tu	16	5:42 2.0	13:25 0.3	17:33 0.6	22:35 0.0	Th	16	6:11 2.0	13:51 0.1	18:55 0.5	23:30 0.1		
	S	17	5:30 1.7	12:24 0.4	17:06 0.8	22:45 0.0	W	17	6:28 1.9	14:25 0.3	18:52 0.4	23:20 0.1	F	17	6:58 1.8	14:37 0.1	20:18 0.6			
	M	18	6:11 1.7	13:30 0.4	17:37 0.6	23:14 0.0	Th	18	7:21 1.8	15:26 0.2	20:40 0.5		S	18	0:38 0.3	7:52 1.6	15:21 0.0	21:42 0.5		
	Tu	19	7:00 1.7	14:53 0.4	18:00 0.5	23:43 0.1	F	19	8:24 0.3	8:22 1.7	16:18 0.1	22:22 0.6	S	19	2:18 0.5	8:50 1.4	16:07 0.0	22:46 1.0		
	W	20	7:57 1.7	16:23 0.3	20:08 0.4		S	20	2:12 0.5	9:27 1.5	17:00 0.0	23:30 0.8	M	20	4:14 0.6	10:01 1.2	16:42 0.0	23:41 1.3		
D P	Th	21	8:33 0.2	9:02 1.6	17:28 0.2	22:25 0.5	S	21	4:18 0.5	10:35 1.4	17:40 0.0		Tu	21	5:56 0.5	11:05 1.0	17:23 0.0			
	F	22	2:14 0.4	10:12 1.6	18:03 0.2	23:57 0.6	M	22	0:18 1.1	5:55 0.5	11:47 1.3	18:13 0.0	W	22	0:38 1.6	7:20 0.4	12:06 0.8	18:07 -0.1		
	S	23	4:22 0.5	11:20 1.6	18:36 0.1		Tu	23	0:55 1.3	7:07 0.3	12:42 1.1	18:47 -0.1	Th	23	1:28 1.8	8:28 0.3	13:04 0.7	18:48 -0.2		
	S	24	0:44 0.9	5:55 0.4	12:17 1.5	19:07 0.0	W	24	1:38 1.6	8:12 0.2	13:30 1.0	19:24 -0.1	F	24	2:13 2.0	9:28 0.2	13:56 0.8	19:28 -0.2		
	M	25	1:24 1.1	7:05 0.3	13:13 1.4	19:36 0.0	Th	25	2:21 1.8	9:11 0.2	14:15 0.9	19:58 -0.2	S	25	2:57 2.2	10:20 0.1	14:43 0.6	20:08 -0.2		
	Tu	26	1:56 1.4	8:04 0.1	14:02 1.3	20:11 -0.1	F	26	3:08 2.0	10:08 0.1	14:57 0.8	20:31 -0.2	S	26	3:38 2.3	11:10 0.1	15:28 0.5	20:46 -0.2		
	W	27	2:33 1.6	8:54 0.1	14:43 1.3	20:40 -0.1	S	27	3:45 2.1	11:03 0.1	15:39 0.7	21:03 -0.2	M	27	4:20 2.2	11:53 0.1	16:16 0.5	21:27 -0.1		
	Th	28	3:15 1.7	9:47 0.0	15:22 1.1	21:08 -0.1	S	28	4:27 2.1	11:59 0.2	16:16 0.6	21:36 -0.1	Tu	28	4:58 2.1	12:36 0.1	17:06 0.5	22:04 0.0		
	F	29	3:56 1.8	10:41 0.1	16:01 1.0	21:40 -0.1	M	29	5:08 2.1	12:56 0.2	16:59 0.5	22:08 0.0	W	29	5:36 2.0	13:04 0.1	18:02 0.5	22:45 0.1		
	S	30	4:37 1.9	11:39 0.1	16:40 0.8	22:07 -0.1	Tu	30	5:52 2.0	13:48 0.2	18:10 0.4	22:45 0.1	Th	30	6:12 1.9	13:45 0.1	19:08 0.6	23:30 0.3		
S	31	5:23 2.0	12:44 0.3	17:20 0.6	22:38 0.0							F	31	6:48 1.7	14:17 0.1	20:21 0.7				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Lower Low Water, which is the datum of soundings on the Hawaiian Government Survey Charts for this region, and which is 0.7 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Hawaiian Standard, 157° 30' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.						W.	Mo.						W.	Mo.					
N	F	1	2:32 2.9	8:40 0.3	14:54 3.1	21:14 0.2	O	M	1	4:10 2.8	10:10 0.3	16:20 3.1	22:43 0.2	N	M	1	3:00 2.6	9:04 0.5	15:15 2.9	21:37 0.4	
	S	2	3:30 2.9	9:34 0.2	15:45 3.2	22:07 0.1		N	Tu	2	4:58 2.9	11:00 0.2	17:07 3.1	23:27 0.1	Tu	2	3:57 2.7	9:57 0.4	16:05 3.0	22:25 0.3	
	S	3	4:22 3.0	10:24 0.1	16:35 3.3	22:55 0.0		A	W	3	5:40 2.9	11:40 0.2	17:50 3.1		W	3	4:42 2.8	10:45 0.3	16:50 3.0	23:07 0.2	
	M	4	5:08 3.0	11:10 0.1	17:20 3.3	23:40 0.0			Th	4	0:07 0.1	6:20 2.9	12:20 0.3	18:28 3.1	Th	4	5:20 2.9	11:24 0.3	17:32 3.0	23:45 0.2	
	Tu	5	5:53 3.0	11:55 0.2	18:02 3.2				F	5	0:43 0.2	6:55 2.9	12:55 0.4	19:05 3.0	F	5	5:55 2.9	12:00 0.3	18:07 3.0		
O	W	6	0:24 0.1	6:35 2.9	12:35 0.3	18:45 3.1	E	S	6	1:18 0.2	7:27 2.8	13:28 0.4	19:37 2.9	O	S	6	0:20 0.2	6:27 2.9	12:30 0.3	18:38 3.0	
	Th	7	1:03 0.1	7:16 2.8	13:15 0.4	19:25 3.0		A	S	7	1:50 0.3	8:00 2.7	14:00 0.5	20:08 2.8	S	7	0:50 0.2	6:55 2.9	13:00 0.3	19:07 2.9	
	F	8	1:43 0.2	7:55 2.7	13:55 0.5	20:04 2.9		M	8	2:22 0.4	8:30 2.7	14:35 0.6	20:40 2.7	E	M	8	1:17 0.3	7:25 2.8	13:30 0.4	19:37 2.8	
	S	9	2:20 0.3	8:32 2.6	14:34 0.6	20:43 2.7		Tu	9	2:55 0.5	9:05 2.6	15:12 0.7	21:18 2.6	Tu	9	1:46 0.4	7:54 2.8	14:00 0.4	20:08 2.7		
	S	10	3:00 0.5	9:10 2.5	15:15 0.7	21:23 2.6		W	10	3:32 0.6	9:43 2.5	15:50 0.7	22:00 2.5	W	10	2:17 0.5	8:27 2.7	14:37 0.5	20:43 2.6		
A	M	11	3:37 0.6	9:48 2.5	15:57 0.8	22:05 2.4	C	Th	11	4:13 0.7	10:26 2.5	16:40 0.7	22:47 2.4	S	Th	11	2:58 0.6	9:08 2.6	15:17 0.6	21:20 2.5	
	Tu	12	4:20 0.7	10:33 2.4	16:42 0.9	22:50 2.4		F	12	4:58 0.8	11:20 2.5	17:40 0.8	23:50 2.4		F	12	3:30 0.7	9:47 2.5	16:05 0.7	22:12 2.4	
	W	13	5:05 0.8	11:23 2.4	17:32 0.9	23:45 2.3		C	S	13	5:00 0.8	12:27 2.5	18:52 0.7			S	13	4:20 0.8	10:45 2.5	17:08 0.7	23:18 2.4
	Th	14	5:58 0.8	12:15 2.4	18:30 0.8			S	14	1:00 2.4	7:14 0.8	13:35 2.6	20:00 0.6		C	S	14	5:27 0.9	11:55 2.5	18:23 0.7	
	F	15	0:42 2.4	6:55 0.8	13:08 2.5	19:32 0.7		M	15	2:14 2.5	8:22 0.7	14:40 2.8	21:02 0.4		S	M	15	0:35 2.4	6:46 0.8	13:08 2.6	19:36 0.6
E	S	16	1:44 2.4	7:44 0.7	14:12 2.7	20:30 0.5	S	Tu	16	3:18 2.7	9:23 0.4	15:37 3.0	22:00 0.1	P	Tu	16	1:52 2.5	8:02 0.7	14:18 2.8	20:42 0.4	
	S	17	2:44 2.5	8:50 0.6	15:06 2.9	21:26 0.3		W	17	4:13 2.9	10:18 0.2	16:30 3.3	22:52 -0.1		W	17	2:58 2.7	9:05 0.4	15:18 3.0	21:38 0.1	
	M	18	3:40 2.7	9:43 0.4	15:58 3.1	22:20 0.1		Th	18	5:05 3.1	11:09 0.0	17:20 3.5	23:40 -0.3		Th	18	3:53 3.0	10:00 0.1	16:13 3.3	22:30 -0.1	
	Tu	19	4:30 2.9	10:33 0.3	16:48 3.2	23:10 0.0		●	F	19	5:52 3.3	11:56 -0.2	18:09 3.6			F	19	4:42 3.2	10:52 -0.1	17:03 3.5	23:17 -0.3
	W	20	5:20 3.0	11:22 0.1	17:37 3.4	23:58 -0.2		P	S	20	0:25 -0.3	6:32 3.4	12:45 -0.2		18:52 3.6	S	20	5:28 3.4	11:40 -0.3	17:52 3.6	
P	Th	21	6:08 3.1	12:12 0.0	18:25 3.5		E	S	21	1:12 -0.4	7:24 3.4	13:33 -0.2	19:45 3.5	E	S	21	0:05 -0.4	6:15 3.6	12:26 -0.4	18:38 3.6	
	F	22	0:45 -0.2	6:56 3.2	13:00 0.0	19:15 3.5		M	22	2:00 -0.3	8:10 3.4	14:23 -0.2	20:35 3.4		M	22	0:50 -0.4	7:00 3.6	13:13 -0.4	19:25 3.6	
	S	23	1:34 -0.2	7:44 3.2	13:50 0.0	20:03 3.4		Tu	23	2:48 -0.2	9:00 3.3	15:13 -0.1	21:25 3.2		Tu	23	1:36 -0.3	7:46 3.5	14:00 -0.3	20:12 3.4	
	S	24	2:23 -0.2	8:33 3.2	14:43 0.0	20:55 3.3		W	24	3:40 0.0	9:52 3.2	16:08 0.1	22:23 3.0		W	24	2:24 -0.1	8:35 3.4	14:50 -0.1	21:04 3.2	
	M	25	3:15 0.0	9:25 3.1	15:38 0.1	21:50 3.1		Th	25	4:35 0.3	10:50 3.0	17:12 0.3	23:28 2.8		Th	25	3:15 0.1	9:27 3.2	15:45 0.1	22:00 2.9	
D	Tu	26	4:07 0.1	10:22 3.0	16:34 0.2	22:50 3.0	D	F	26	5:40 0.5	11:58 2.8	18:20 0.4		D	F	26	4:10 0.3	10:25 3.0	16:47 0.3	23:04 2.7	
	W	27	5:05 0.2	11:22 3.0	17:38 0.3	23:54 2.8		S	27	0:40 2.6	6:52 0.6	13:07 2.8	19:34 0.5		S	27	5:15 0.5	11:30 2.8	17:55 0.5		
	Th	28	6:05 0.4	12:26 2.9	18:48 0.4			S	28	1:55 2.6	8:00 0.6	14:15 2.8	20:40 0.5		S	28	0:16 2.5	6:28 0.7	12:40 2.7	19:08 0.6	
	F	29	1:04 2.7	7:15 0.4	13:32 2.9	19:55 0.4									M	29	1:30 2.5	7:40 0.7	13:50 2.7	20:15 0.5	
	S	30	2:14 2.7	8:20 0.4	14:35 2.9	21:00 0.3									Tu	30	2:37 2.6	8:48 0.6	14:50 2.7	21:10 0.5	
	S	31	3:17 2.8	9:20 0.3	15:32 3.0	21:55 0.2							W	31	3:30 2.7	9:35 0.5	15:43 2.8	21:57 0.4			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The height, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 1.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Apia Mean Local Civil, for meridian of 171° 44' W.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.										
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.						W.	Mo.						W.	Mo.						
A	Th	1	4:12	10:18	16:25	22:38	E	S	1	4:12	10:22	16:27	22:34	O	Tu	1	4:36	10:50	17:00	23:00		
			2.8	0.4	2.9	0.3				2.8	0.4	2.8	0.4				2.9	0.3	2.8	0.4		
	F	2	4:50	10:57	17:02	23:13			S	2	4:44	10:55	17:59		23:04		W	2	5:13	11:30	17:37	23:38
E	S	3	5:22	11:30	17:35	23:44	O	M	3	5:15	11:26	17:30	23:35	S	Th	3	5:51	12:10	18:17	24:09		
			2.9	0.3	2.9	0.3				2.9	0.3	2.9	0.4				3.0	0.2	2.8	0.4		
	S	4	5:50	12:00	18:04	24:14			Tu	4	5:45	11:58	18:04		24:04		F	4	0:18	6:33	12:54	19:00
O	M	5	0:11	6:18	12:28	18:34	O	W	5	0:06	6:17	12:30	18:38	S	S	5	1:00	7:18	13:40	19:47		
			0.3	2.9	0.3	2.9				0.4	3.0	0.2	2.8				0.4	3.0	0.2	2.8		
	Tu	6	0:40	6:47	13:00	19:05			Th	6	0:40	6:52	13:10		19:15		S	6	1:49	8:06	14:32	20:40
S	W	7	1:10	7:18	13:32	19:38	S	F	7	1:18	7:32	13:52	19:57	O	M	7	2:42	9:00	15:25	21:33		
			0.4	2.9	0.3	2.8				0.5	2.9	0.3	2.7				0.5	2.9	0.3	2.7		
	Th	8	1:42	7:52	14:08	20:13			S	8	2:00	8:17	14:41		20:46		Tu	8	3:42	10:00	16:25	22:37
P	F	9	2:18	8:33	14:52	20:57	P	S	9	2:50	9:08	15:37	21:45	N	W	9	4:46	11:02	17:25	23:40		
			0.6	2.7	0.5	2.6				0.7	2.7	0.4	2.5				0.6	2.8	0.4	2.7		
	S	10	3:02	9:22	15:45	21:52			M	10	3:48	10:10	16:40		22:52		Th	10	5:52	12:07	18:25	24:40
D			0.7	2.6	0.6	2.5	D			0.7	2.7	0.5	2.5	A			0.5	2.5	0.4	2.4		
	S	11	3:58	10:22	16:50	23:00			Tu	11	5:00	11:18	17:45		24:00		F	11	0:42	6:55	13:10	19:24
			0.8	2.6	0.6	2.4				0.8	2.7	0.5	2.5				2.8	0.4	2.8	0.3		
A	M	12	5:08	11:34	18:02	24:10	A	W	12	0:02	6:14	12:30	18:52	E	S	12	1:42	7:56	14:10	20:22		
			0.9	2.6	0.6	2.4				2.5	0.7	2.7	0.4				2.9	0.8	2.9	0.2		
	Tu	13	0:18	6:30	12:48	19:15			Th	13	1:09	7:21	13:35		19:52		S	13	2:38	8:55	15:10	21:20
N			2.4	0.8	2.7	0.5	N			2.7	0.5	2.8	0.3	D			3.1	0.1	3.0	0.1		
	W	14	1:32	7:43	13:57	20:18			F	14	2:09	8:20	14:33		20:45		M	14	3:31	9:49	16:04	22:10
			2.6	0.6	2.8	0.3				2.9	0.8	3.0	0.2				3.2	0.0	3.1	0.1		
E	Th	15	2:38	8:45	14:57	21:13	E	S	15	3:00	9:14	15:27	21:40	N	Tu	15	4:20	10:40	16:55	22:58		
			2.8	0.3	3.1	0.1				3.1	0.1	3.1	0.0				3.8	-0.1	3.2	0.0		
	F	16	3:26	9:34	15:50	22:03			S	16	3:52	10:06	16:19		22:30		W	16	5:08	11:30	17:43	23:45
P			3.1	0.1	3.3	-0.1	P			3.3	-0.1	3.3	-0.1	O			3.4	-0.1	3.1	0.0		
	S	17	4:15	10:28	16:40	22:53			M	17	4:41	10:56	17:10		23:16		Th	17	5:55	12:17	18:30	24:40
			3.3	-0.1	3.4	-0.2				3.4	-0.2	3.4	-0.1				3.4	-0.1	3.1	0.0		
D	S	18	5:03	11:17	17:29	23:40	D	Tu	18	5:27	11:45	17:57	24:00	E	F	18	0:32	6:42	13:05	19:17		
			3.5	-0.3	3.5	-0.3				3.5	-0.3	3.3	3.2				0.1	3.3	0.0	3.0		
	M	19	5:50	12:08	18:15	24:30			W	19	0:02	6:13	12:31		18:45		S	19	1:18	7:28	13:50	20:04
A			3.6	-0.4	3.5	3.4	A			-0.1	3.5	-0.3	3.2	D			0.2	3.2	0.1	2.9		
	Tu	20	0:24	6:35	12:50	19:00			Th	20	0:48	7:00	13:20		19:38		S	20	2:05	8:15	14:37	20:52
			-0.3	3.6	-0.4	3.4				0.0	3.4	-0.2	3.1		3.1			0.3	3.1	0.2	2.8	
N	W	21	1:10	7:20	13:38	19:50	N	F	21	1:36	7:47	14:10	20:23	A	M	21	2:54	9:05	15:25	21:40		
			-0.2	3.5	-0.3	3.3				0.1	3.8	0.0	2.9				0.5	2.9	0.4	2.6		
	Th	22	1:57	8:10	14:28	20:41			S	22	2:27	8:38	15:00		21:16		Tu	22	3:45	9:55	16:12	22:30
E			0.0	3.3	-0.1	3.0	E			0.3	3.1	0.2	2.8	D			0.6	2.7	0.5	2.5		
	F	23	2:47	9:00	15:22	21:37			S	23	3:20	9:32	15:56		22:13		W	23	4:38	10:47	17:01	23:20
			0.2	3.1	0.1	2.8				0.5	2.9	0.4	2.6				0.7	2.5	0.6	2.3		
O	S	24	3:44	9:58	16:22	22:40	O	M	24	4:20	10:30	16:52	23:12	E	Th	24	5:32	11:40	17:50	24:10		
			0.4	2.9	0.3	2.6				0.6	2.7	0.5	2.5				0.8	2.4	0.7	2.4		
	S	25	4:48	11:00	17:26	23:48			Tu	25	5:22	11:32	17:50		24:00		F	25	0:10	6:22	12:32	18:43
D			0.6	2.7	0.5	2.5	D			0.8	2.6	0.6	2.5	A			2.4	0.8	2.4	0.8		
	M	26	5:58	12:08	18:35	24:50			W	26	0:18	6:26	12:35		18:48		S	26	1:00	7:12	13:22	19:32
			0.8	2.6	0.6	2.4				2.5	0.8	2.5	0.7				2.5	0.8	2.4	0.7		
A	T	27	0:58	7:08	13:16	19:37	A	Th	27	1:10	7:22	13:32	19:42	E	S	27	1:48	8:02	14:12	20:30		
			2.5	0.7	2.6	0.6				2.5	0.8	2.5	0.7				2.5	0.7	2.4	0.7		
	W	28	1:59	8:10	14:17	20:30			F	28	1:59	8:12	14:21		20:30		M	28	2:33	8:50	15:02	21:16
N			2.5	0.7	2.6	0.6	N			2.5	0.7	2.5	0.6	D			2.6	0.6	2.5	0.6		
	Th	29	2:49	9:02	15:08	21:18			S	29	2:43	8:56	15:05		21:11		Tu	29	3:18	9:35	15:48	21:50
			2.6	0.6	2.7	0.5				2.6	0.6	2.6	0.6				2.7	0.5	2.6	0.5		
E	F	30	3:32	9:45	15:50	21:58	E	S	30	3:24	9:35	15:45	21:48	O	W	30	4:03	10:20	16:32	22:33		
			2.7	0.5	2.7	0.4				2.7	0.5	2.7	0.5				2.9	0.3	2.7	0.4		
	M	31	4:00	10:13	16:20	22:25				2.8	0.4	2.7	0.5									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 1.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Apia Mean Local Civil, for meridian of 171° 44' W; 0^h is midnight; 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
U	Th	1	4:47	11:06	17:17	23:17	○	S	1	6:00	12:20	18:32	...	E	W	1	1:05	7:17	13:30	19:42
	F	2	5:32	11:52	18:02	...		M	2	6:35	12:55	19:07	...		Th	2	1:54	8:06	14:18	20:30
	S	3	6:02	12:17	18:38	...	P	Tu	3	7:12	13:37	19:50	...	F	3	2:44	8:56	15:10	21:21	
	S	4	6:50	13:04	19:27	...		W	4	7:55	14:28	20:55	...	S	4	3:38	9:53	16:06	22:20	
	M	5	7:38	13:52	20:25	...	E	Th	5	8:38	15:20	21:48	...	S	5	4:40	10:56	17:08	23:25	
P	Tu	6	8:32	14:46	21:20	...		F	6	9:25	16:30	22:48	...	☾	M	6	5:50	12:08	18:20	...
	W	7	9:28	15:42	22:15	...		S	7	10:18	17:30	23:50	...		Tu	7	6:55	13:22	19:30	...
	Th	8	10:27	16:40	23:15	...	☾	S	8	11:15	18:37	...	N	W	8	8:05	14:32	20:36	...	
	F	9	11:28	17:47	...	...		M	9	12:15	19:47	...		Th	9	9:15	15:30	21:32	...
	S	10	12:32	18:52	...	...		Tu	10	13:15	20:48	...		F	10	10:30	16:42	22:21	...
E	S	11	1:37	19:53	...	...		W	11	14:20	21:45	...		S	11	11:45	17:55	23:03	...
	M	12	2:45	21:00	...	...	N	Th	12	15:25	22:35	...		S	12	12:55	19:05	24:02	...
	Tu	13	3:55	22:15	...	...		F	13	16:35	23:20	...		M	13	14:10	20:15	...	...
	W	14	4:07	23:25	...	...		S	14	17:45	...	...	☉	Tu	14	15:25	21:25	...	...
	Th	15	5:15	24:35	...	...	☉	S	15	18:55	...	...	E	W	15	16:40	22:35	...	...
N	F	16	6:25	25:45	...	...		M	16	19:55	...	...		Th	16	17:55	23:45	...	...
	S	17	7:35	26:55	...	...		Tu	17	21:05	...	...		F	17	19:10	24:55	...	...
	S	18	8:45	28:05	...	...		W	18	22:15	...	...		S	18	20:25	26:05	...	...
	M	19	9:55	29:15	...	...	A	Th	19	23:25	...	...		S	19	21:40	27:15	...	...
	Tu	20	11:05	30:25	...	...	E	F	20	24:35	...	...		M	20	22:55	28:25	...	...
A	W	21	12:15	31:35	...	...		S	21	25:45	...	...		Tu	21	24:10	29:35	...	...
	Th	22	13:25	32:45	...	...		S	22	26:55	...	...	☾	W	22	25:25	30:45	...	...
	F	23	14:35	33:55	...	...	☾	M	23	28:05	...	...		Th	23	26:40	31:55	...	...
	S	24	15:45	35:05	...	...		Tu	24	29:15	...	...		F	24	27:55	33:05	...	...
	S	25	16:55	36:15	...	...		W	25	30:25	...	...		S	25	29:10	34:15	...	...
D	M	26	18:05	37:25	...	...	S	Th	26	31:35	...	...		S	26	30:25	35:25	...	...
	Tu	27	19:15	38:35	...	...		F	27	32:45	...	...		M	27	31:40	36:35	...	...
	W	28	20:25	39:45	...	...		S	28	33:55	...	...		Tu	28	32:55	37:45	...	...
	Th	29	21:35	40:55	...	...		S	29	35:05	...	...	☉	W	29	34:10	38:55	...	...
	F	30	22:45	42:05	☉	M	30	36:15	P	Th	30	35:25	39:05	
S	S	31	23:55	43:15	P	Tu	31	37:25				36:40	40:15	

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The time used is Apia Mean Local Civil, for meridian of 171° 44' W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

☉, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	1:30 -0.3	7:43 3.5	13:55 -0.2	20:05 3.4	N	M	1	2:57 0.0	9:10 2.9	15:18 0.3	21:31 3.0	E A	W	1	3:30 0.2	9:48 2.7	15:55 0.5	22:16 2.8												
	S	2	2:20 -0.2	8:34 3.2	14:45 0.1	20:57 3.2		Tu	2	3:57 0.2	10:13 2.7	16:23 0.5	22:35 2.8		Th	2	4:28 0.4	10:48 2.6	17:00 0.6	23:18 2.7												
	S	3	3:17 0.0	9:30 3.0	15:42 0.3	21:55 3.0		W	3	5:00 0.4	11:23 2.6	17:33 0.6	23:44 2.7		F	3	5:28 0.5	11:50 2.6	18:03 0.7													
	M	4	4:18 0.2	10:35 2.7	16:47 0.5	23:00 2.9		Th	4	6:10 0.5	12:33 2.6	18:45 0.6			S	4	6:13 2.6	12:57 0.6	19:03 2.5	23:46 0.7												
	Tu	5	5:27 0.4	11:48 2.6	18:00 0.6			F	5	7:05 2.7	13:36 0.5	19:48 2.6			S	5	7:25 2.5	13:44 0.6	20:06 2.6	24:06 0.7												
	W	6	8:13 2.8	6:40 0.5	13:03 2.6	19:12 0.6		S	6	8:10 2.7	14:30 0.5	20:43 2.7			M	6	8:17 2.5	14:30 0.6	20:46 2.6													
	Th	7	1:23 2.8	7:48 0.5	14:10 2.6	20:18 0.5		S	7	2:52 2.8	9:00 0.4	15:15 2.8	21:28 0.4		Tu	7	2:55 2.6	9:00 0.6	15:13 2.7	21:28 2.6												
	F	8	2:25 2.8	8:47 0.4	15:04 2.8	21:13 0.4		M	8	3:36 2.8	9:45 0.4	15:57 2.9	22:10 0.4		W	8	3:36 2.6	9:40 0.5	15:50 2.8	22:16 2.8												
	S	9	3:20 2.9	9:34 0.3	15:50 2.9	22:00 0.3		Tu	9	4:13 2.8	10:20 0.4	16:32 2.9	22:43 0.3		Th	9	4:13 2.7	10:15 0.5	16:27 2.9	22:44 2.9												
	S	10	4:08 3.0	10:20 0.2	16:30 3.0	22:40 0.3		W	10	4:47 2.8	10:52 0.4	17:02 2.9	23:16 0.3		F	10	4:50 2.7	10:50 0.5	17:00 2.9	23:17 2.9												
E A	M	11	4:47 3.0	10:57 0.2	17:06 3.0	23:14 0.3		Th	11	5:20 2.8	11:22 0.4	17:32 2.9	23:45 0.3	S	11	5:25 2.7	11:25 0.4	17:40 3.0	23:35 3.0													
	Tu	12	5:20 3.0	11:28 0.3	17:37 3.0	23:45 0.3		F	12	5:52 2.8	11:52 0.4	18:03 2.9		S	12	6:05 2.8	12:00 0.4	18:16 3.0														
	W	13	5:52 2.9	11:57 0.3	18:06 2.9			S	13	6:17 0.3	12:22 2.7	18:36 0.4	18:36 2.9	M	13	6:35 0.2	12:40 2.8	18:57 0.5	18:57 3.0													
	Th	14	6:15 0.3	12:20 2.9	18:34 0.3	2.9		S	14	6:52 0.3	12:57 2.7	19:12 2.9		Tu	14	7:18 0.2	12:55 2.7	19:40 0.5	19:40 3.0													
	F	15	6:45 0.3	12:53 2.8	19:02 0.4	2.8		M	15	7:30 0.3	13:34 2.6	19:53 2.8		W	15	7:50 0.2	13:10 2.7	20:28 0.5	20:28 3.0													
	S	16	1:15 0.4	7:20 2.7	13:24 0.5	2.7		Tu	16	8:20 0.4	14:20 2.6	20:40 2.7		Th	16	8:50 0.3	14:10 2.7	21:25 0.6	21:25 3.0													
	S	17	1:50 0.5	7:52 2.6	13:37 0.6	2.7		W	17	9:07 0.5	15:12 2.5	21:38 2.6		F	17	9:40 0.4	14:40 2.6	22:25 0.6	22:25 3.0													
	M	18	2:30 0.5	8:33 2.5	14:37 0.8	2.6		Th	18	9:45 0.6	15:15 2.4	22:43 2.6		S	18	10:20 0.4	15:10 2.6	23:30 0.6	23:30 3.0													
	Tu	19	3:20 0.6	9:25 2.4	15:30 0.9	2.4		F	19	10:15 0.6	16:22 2.5	23:55 2.6		S	19	11:00 0.4	16:00 2.7	24:20 0.5														
	W	20	4:20 0.7	10:30 2.3	16:36 0.9	2.5		S	20	11:00 0.5	17:36 2.6	24:10 2.7		M	20	11:50 2.7	17:00 0.4	25:10 2.8														
D P	Th	21	5:30 0.7	11:47 2.3	17:57 0.9			S	21	1:02 2.7	19:19 0.4	19:50 0.4		Tu	21	1:37 2.8	19:48 0.8	20:25 3.0														
	F	22	6:18 2.5	12:44 0.6	19:13 2.5	0.7		M	22	2:03 2.9	10:33 0.3	20:45 3.0		W	22	2:40 2.9	11:03 0.2	21:22 3.2														
	S	23	1:27 2.7	7:47 0.4	14:05 2.7	0.5		Tu	23	2:58 3.1	9:10 0.1	15:23 3.2	21:38 -0.1	Th	23	3:37 3.1	9:43 0.1	15:56 3.3	22:16 -0.1													
	S	24	2:28 2.9	8:43 0.2	14:59 3.0	0.2		W	24	3:50 3.2	10:02 -0.1	16:13 3.4	22:28 -0.2	F	24	4:30 3.1	10:34 0.0	16:45 3.4	23:06 -0.2													
	M	25	3:28 3.2	9:35 0.0	15:48 3.2	-0.1		Th	25	4:42 3.3	10:50 -0.1	17:00 3.5	23:20 -0.3	S	25	5:20 3.2	11:22 0.0	17:34 3.5	23:55 -0.2													
	Tu	26	4:13 3.3	10:26 -0.1	16:37 8.4	-0.3		F	26	5:32 3.4	11:37 -0.2	17:48 3.6		S	26	6:08 3.2	12:10 0.0	18:20 3.5														
	W	27	5:02 3.5	11:12 -0.3	17:22 8.6	-0.4		S	27	6:07 -0.3	12:30 3.3	18:35 3.5		M	27	6:42 -0.2	12:55 3.1	18:57 3.4														
	Th	28	5:47 3.5	11:57 -0.3	18:07 8.6			S	28	6:56 -0.3	13:02 3.2	19:24 0.0	8.4	Tu	28	7:42 -0.1	13:45 3.0	19:55 0.2														
	F	29	6:22 -0.4	12:45 3.5	19:02 -0.2	8.6		M	29	7:45 -0.1	14:00 8.1	20:13 0.2	3.2	W	29	8:30 0.0	14:32 2.9	20:45 3.1														
	S	30	7:12 -0.3	1:24 8.3	20:30 -0.1	8.4		Tu	30	8:37 0.0	15:12 2.9	21:08 0.3	3.0	Th	30	9:18 0.2	15:22 2.8	21:35 0.5														
S	31	2:02 -0.2	8:15 8.1	14:21 0.1	20:33 3.2								F	31	3:50 0.4	10:07 2.7	16:15 0.6	22:25 2.8														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 1.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Apia Mean Local Civil, for meridian of 171° 44' W; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 13.47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.				
Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.			Mo.	Day of—	Time and Height of High and Low Water.		
	W. Mo.					W. Mo.					W. Mo.			
	F 1	5:31	11:56	18:00		M 1	0:56	7:06	13:26		M 1	5:50	12:10	18:10
		—0.2	3.7	—0.1			3.8	—0.1	3.6			—0.2	3.7	—0.1
	S 2	0:21	6:29	12:51		Tu 2	1:48	7:58	14:19		Tu 2	0:30	6:40	13:01
		3.7	—0.1	3.7			3.7	0.0	3.4			3.8	—0.1	3.5
	S 3	1:15	7:25	13:46		W 3	2:39	8:50	15:10		W 3	1:21	7:32	13:51
		3.7	—0.1	3.6			3.6	0.1	3.3			3.7	0.0	3.4
	M 4	2:10	8:20	14:42		Th 4	3:29	9:40	16:00		Th 4	2:10	8:20	14:40
		3.7	0.0	3.5			3.5	0.2	3.1			3.6	0.2	3.2
	Tu 5	3:02	9:15	15:36		F 5	4:17	10:30	16:48		F 5	3:00	9:10	15:28
		3.6	0.0	3.3			3.4	0.4	3.0			3.4	0.4	3.0
N	W 6	3:53	10:08	16:29		S 6	5:06	11:18	17:35		S 6	3:48	9:57	16:17
		3.6	0.1	3.2			3.2	0.5	2.9			3.2	0.5	2.9
○	Th 7	4:44	10:58	17:20		S 7	5:53	12:04	18:21		○ A S 7	4:37	10:45	17:02
		3.5	0.2	3.1			3.1	0.6	2.8			3.0	0.7	2.8
	F 8	5:33	11:47	18:09		A M 8	0:10	6:40	12:49		M 8	5:27	11:32	17:49
		3.4	0.3	3.0			0.7	3.0	0.7			2.9	0.8	2.7
	S 9	6:20	12:34	18:55		Tu 9	0:55	7:25	13:31		E Tu 9	6:13	12:15	18:32
		3.3	0.4	3.0			0.7	3.0	0.7			2.8	0.8	2.7
	S 10	0:43	7:08	13:19		E W 10	1:42	8:10	14:14		W 10	0:27	7:00	13:00
		0.6	3.3	0.4			0.7	2.9	0.6			0.8	2.8	0.8
	M 11	1:28	7:51	14:01		Th 11	2:28	8:54	14:56		Th 11	1:15	7:43	13:42
		0.6	3.2	0.5			0.6	3.0	0.6			0.7	2.9	0.7
A	Tu 12	2:10	8:38	14:45		F 12	3:14	9:39	15:59		F 12	2:00	8:27	14:26
		0.6	3.1	0.5			0.5	3.0	0.5			0.6	3.0	0.6
	W 13	2:56	9:21	15:28		S 13	4:00	10:22	16:22		S 13	2:48	9:10	15:08
		0.6	3.1	0.5			0.4	3.1	0.4			0.4	3.1	0.4
E	Th 14	3:43	10:05	16:10		○ S 14	4:49	11:09	17:06		○ S 14	3:36	9:55	15:52
		0.5	3.1	0.5			0.2	3.2	0.3			0.2	3.2	0.3
○	F 15	4:29	10:51	16:54		M 15	5:36	11:54	17:51		○ M 15	4:22	10:38	16:37
		0.4	3.1	0.4			0.1	3.3	0.2			0.1	3.3	0.2
	S 16	5:17	11:39	17:39		Tu 16	0:16	6:25	12:40		S Tu 16	5:10	11:24	17:23
		0.4	3.1	0.4			3.5	0.0	3.3			0.0	3.4	0.1
	S 17	6:06	12:26	18:22		S W 17	1:06	7:15	13:30		W 17	5:58	12:12	18:12
		0.3	3.1	0.4			3.6	0.0	3.4			—0.1	3.4	0.0
	M 18	0:47	6:56	13:13		Th 18	1:56	8:06	14:20		Th 18	0:38	6:48	13:02
		3.3	0.2	3.2			3.7	—0.1	3.4			3.7	—0.1	3.5
	Tu 19	1:36	7:46	14:01		F 19	2:50	9:00	15:13		F 19	1:29	7:40	13:53
		3.4	0.1	3.2			3.7	—0.1	3.4			3.7	—0.1	3.5
	W 20	2:26	8:36	14:51		● S 20	3:43	9:55	16:09		S 20	2:24	8:33	14:48
		3.5	0.1	3.2			3.7	—0.1	3.4			3.7	—0.1	3.5
S	Th 21	3:19	9:30	15:44		P S 21	4:40	10:51	17:05		P S 21	3:20	9:30	15:45
		3.6	0.0	3.3			3.7	—0.1	3.4			3.7	0.0	3.5
●	F 22	4:11	10:24	16:37		M 22	5:38	11:50	18:05		● M 22	4:18	10:28	16:44
		3.6	0.0	3.3			3.7	—0.1	3.5			3.6	0.0	3.5
	S 23	5:05	11:18	17:31		E Tu 23	0:10	6:37	12:49		E Tu 23	5:20	11:28	17:44
		3.7	—0.1	3.4			0.0	3.7	—0.1			3.6	0.0	3.5
P	S 24	6:00	12:13	18:29		W 24	1:10	7:36	13:46		W 24	6:19	12:27	18:43
		3.7	—0.1	3.5			—0.1	3.7	—0.2			3.6	—0.1	3.6
	M 25	0:30	6:56	13:10		Th 25	2:10	8:34	14:42		Th 25	0:54	7:19	13:27
		0.0	3.7	—0.1			—0.2	3.8	—0.2			—0.1	3.7	—0.1
	Tu 26	1:29	7:55	14:06		F 26	3:08	9:30	15:37		F 26	1:53	8:16	14:22
		0.0	3.8	—0.2			—0.3	3.8	—0.2			—0.2	3.8	—0.2
E	W 27	2:26	8:50	15:01		D S 27	4:03	10:25	16:30		S 27	2:47	9:10	15:14
		—0.1	3.8	—0.2			—0.3	3.8	—0.2			—0.3	3.8	—0.2
	Th 28	3:25	9:48	15:56		S 28	4:58	11:19	17:21		S 28	3:42	10:02	16:05
		—0.2	3.8	—0.2			—0.3	3.8	—0.2			—0.3	3.8	—0.2
D	F 29	4:21	10:44	16:50							D M 29	4:33	10:54	16:55
		—0.2	3.8	—0.2								—0.3	3.7	—0.2
	S 30	5:16	11:39	17:44							Tu 30	5:23	11:42	17:42
		—0.2	3.7	—0.2								—0.2	3.6	0.0
	S 31	0:02	6:11	12:33							W 31	0:02	6:12	12:30
		3.8	—0.2	3.7								3.8	—0.1	3.4

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is New Zealand Standard, 172° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.), and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.					
Mo.	Day of—	Time and Height of High and Low Water.				Mo.	Day of—	Time and Height of High and Low Water.				Mo.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
A	Th 1	0:50 3.6	7:00 0.1	13:18 3.3	19:15 0.3	A	S 1	1:07 3.3	7:12 0.4	13:32 3.1	19:30 0.5	O	Tu 1	2:10 3.0	8:08 0.6	14:28 3.0	20:33 0.5
	F 2	1:38 3.4	7:48 0.3	14:07 3.1	20:02 0.5	S 2	1:55 3.1	7:58 0.5	14:20 2.9	20:15 0.6	W 2		2:58 2.9	8:58 0.6	15:17 3.0	21:23 0.5	
	S 3	2:28 3.2	8:34 0.5	14:54 2.9	20:48 0.6	E M 3	2:46 3.0	8:45 0.6	15:06 2.9	21:05 0.7	Th 3		3:47 2.9	9:40 0.6	16:03 3.1	22:12 0.4	
	S 4	3:17 3.0	9:22 0.6	15:42 2.8	21:35 0.7	Tu 4	3:36 2.9	9:33 0.7	15:52 2.8	21:55 0.7	F 4		4:35 2.9	10:26 0.6	16:52 3.2	23:02 0.5	
	E M 5	4:07 2.9	10:10 0.7	16:30 2.7	22:24 0.8	O W 5	4:25 2.8	10:20 0.8	16:38 2.9	22:43 0.6	S 5		5:22 3.0	11:13 0.5	17:38 3.3	23:51 0.2	
O	Tu 6	4:58 2.8	10:56 0.8	17:13 2.7	23:12 0.8	O	Th 6	5:12 2.8	11:05 0.7	17:26 2.9	23:32 0.6	S	S 6	6:09 3.1	12:01 0.4	18:27 3.4	24:00 0.5
	W 7	5:46 2.8	11:42 0.8	17:58 2.8	23:59 0.8		F 7	5:59 2.9	11:52 0.7	18:12 3.1	24:00 0.6		M 7	6:40 0.1	12:57 3.2	19:17 3.5	24:59 0.5
	Th 8	6:02 0.7	6:32 2.9	12:27 0.8	18:44 2.9		S 8	6:22 0.4	6:45 3.0	12:37 0.6	18:57 3.2		Tu 8	7:30 0.0	7:46 3.3	13:42 3.0	25:00 0.5
	F 9	6:48 0.6	7:17 2.9	13:10 0.7	19:28 3.0		S 9	7:08 0.3	7:28 3.1	13:22 0.4	19:43 3.4		W 9	8:20 -0.1	8:35 3.4	14:33 0.1	25:59 0.5
	S 10	7:36 0.4	8:00 3.0	13:55 0.5	20:12 3.2		S M 10	7:55 0.1	8:13 3.2	14:08 0.3	20:30 8.5		Th 10	9:12 -0.1	9:26 3.5	15:27 0.0	26:59 0.5
S	S 11	8:22 0.3	8:43 3.1	14:38 0.4	20:58 3.4	C	Tu 11	8:43 0.0	9:00 3.3	14:57 0.2	21:22 3.6	C	F 11	10:19 -0.2	10:19 3.6	16:21 0.0	27:59 0.5
	M 12	9:10 0.1	9:27 8.3	15:23 0.3	21:47 3.5		W 12	9:32 0.1	9:48 3.4	15:47 0.1	22:10 3.7		S 12	11:12 -0.3	11:12 3.6	17:17 -0.1	28:59 0.5
	S Tu 13	10:12 0.0	10:12 3.4	16:10 0.1	22:33 3.6		C Th 13	10:37 -0.1	10:37 3.5	16:37 0.0	23:00 3.7		E P S 13	12:07 -0.1	12:07 3.6	18:12 -0.1	29:59 0.5
	C W 14	10:58 -0.1	10:58 3.5	16:57 0.0	23:22 3.7		F 14	11:28 -0.2	11:28 3.6	17:29 0.0	23:54 3.7		M 14	13:02 3.6	13:02 -0.1	19:19 -0.1	30:59 0.5
	Th 15	11:47 -0.2	11:47 3.5	17:47 0.0	24:10 3.7		S 15	12:21 -0.1	12:21 3.6	18:25 0.0	24:40 3.7		Tu 15	14:38 3.6	14:38 0.0	20:36 -0.1	31:59 0.5
E	F 16	12:38 3.7	12:38 -0.2	18:40 3.5	25:00 0.0	E	S 16	13:16 3.6	13:16 -0.1	19:22 3.6	25:20 0.0	N	W 16	15:50 3.5	15:50 0.0	21:05 -0.1	32:59 0.5
	S 17	1:07 3.7	7:16 -0.1	13:32 3.5	19:35 0.0		P M 17	1:47 3.6	7:53 0.0	14:12 3.6	20:20 -0.1		Th 17	17:35 3.5	17:35 0.1	22:02 -0.1	33:59 0.5
	S 18	2:03 3.6	8:12 -0.1	14:27 3.5	20:32 0.0		Tu 18	2:45 3.6	8:50 0.0	15:10 3.6	21:20 -0.1		F 18	19:19 3.4	19:19 0.2	23:06 0.0	34:59 0.5
	M 19	3:00 3.6	9:08 0.0	15:27 3.5	21:33 0.0		W 19	3:45 3.5	9:48 0.0	16:07 3.6	22:20 -0.1		S 19	21:35 3.4	21:35 0.2	24:39 0.0	35:59 0.5
	● Tu 20	4:00 3.6	10:08 0.0	16:25 3.5	22:35 -0.1		● Th 20	4:43 3.5	10:45 0.1	17:05 3.7	23:17 -0.1		S 20	22:56 3.3	22:56 0.2	25:59 0.0	36:59 0.5
P	W 21	5:02 3.6	11:08 0.0	17:24 3.6	23:36 -0.1	N	F 21	5:40 3.5	11:40 0.1	17:59 3.7	29:40 0.0	A	M 21	24:15 0.1	24:15 3.3	26:59 0.3	37:59 0.5
	Th 22	6:02 3.6	12:05 0.0	18:22 3.7	24:36 0.0		S 22	6:03 -0.1	6:35 3.5	12:35 0.1	18:52 3.7		Tu 22	1:28 0.1	7:47 3.2	13:43 0.3	29:06 3.5
	F 23	6:59 -0.2	6:59 3.6	18:02 0.0	19:18 3.8		N S 23	7:07 -0.1	7:27 3.5	13:26 0.1	19:43 3.8		W 23	2:16 0.2	8:35 3.2	14:30 0.4	20:52 3.4
	S 24	7:53 -0.2	7:53 3.7	18:56 -0.1	20:11 3.8		M 24	7:57 -0.1	8:17 3.5	14:15 0.1	20:35 3.7		Th 24	3:02 0.2	9:20 3.2	15:17 0.4	21:39 3.5
	S 25	8:45 -0.3	8:45 3.7	19:46 -0.1	21:03 3.9		Tu 25	8:46 -0.1	9:05 3.4	15:03 0.2	21:22 3.7		F 25	3:48 0.3	10:07 3.1	16:04 0.4	22:27 3.2
D	M 26	9:35 -0.2	9:35 3.6	20:36 0.0	21:52 3.8	D	W 26	9:35 0.0	9:52 3.4	15:50 0.2	22:10 3.6	D	S 26	4:33 0.3	10:52 3.1	16:50 0.4	23:12 3.2
	Tu 27	10:25 -0.2	10:25 3.6	21:24 0.0	22:42 3.8		Th 27	10:25 0.1	10:40 3.3	16:37 0.3	22:58 3.5		S 27	5:17 0.4	11:37 3.1	17:37 0.4	23:51 3.2
	W 28	11:12 -0.2	11:12 3.5	22:10 0.1	23:30 3.6		F 28	11:05 0.2	11:26 3.2	17:23 0.3	23:45 3.3		M 28	6:00 3.1	12:22 0.4	18:24 3.1	24:24 3.4
	Th 29	11:59 0.0	11:59 3.3	22:57 0.2	24:18 3.6		A S 29	11:59 0.3	12:11 3.1	18:10 0.4	24:30 3.5		Tu 29	6:45 3.1	13:07 0.5	19:12 3.1	25:12 3.4
	F 30	12:46 3.5	12:46 0.2	23:44 3.2	24:54 0.4		S 30	12:46 3.2	12:57 0.4	18:57 3.1	25:15 0.5		W 30	7:28 3.0	13:53 0.5	19:53 3.2	25:53 3.4
							M 31	1:22 3.1	7:22 0.5	13:44 3.0	19:45 0.5						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is New Zealand Standard, 172° 30' E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
☾	Th	1	2:20	8:13	14:40	20:50	☾	S	1	8:17	9:15	15:47	21:57	P	W	1	4:36	10:40	17:10	23:22
			3.0	0.5	3.2	0.3				3.2	0.2	3.5	0.1			3.4	0.1	3.6	0.0	
	F	2	3:07	9:00	15:28	21:38	☾	M	2	4:10	10:08	16:38	22:52	E	Th	2	5:36	11:40	18:10	24:40
			3.0	0.5	3.3	0.3				3.2	0.2	3.6	0.0			3.4	0.0	3.6	0.0	
	S	3	3:55	9:47	16:17	22:29		Tu	3	5:03	11:02	17:33	23:45		F	3	0:20	6:35	12:42	19:08
		3.0	0.4	3.4	0.2				3.3	0.2	3.6	0.0				0.0	3.5	0.0	3.6	
	S	4	4:43	10:39	17:08	23:20	P	W	4	6:00	12:00	18:30	24:40		S	4	1:20	7:33	13:42	20:08
		3.1	0.4	3.5	0.1				3.3	0.1	3.6	0.0				—0.1	3.6	—0.1	3.7	
	M	5	5:34	11:30	17:58	24:10		Th	5	0:42	6:57	12:59	19:27		S	5	2:15	8:30	14:40	21:05
		3.2	0.3	3.5	0.0				0.0	3.4	0.0	3.7				—0.2	3.7	—0.2	3.8	
	Tu	6	0:12	6:26	12:23	18:52	E	F	6	1:38	7:54	13:58	20:23		M	6	3:10	9:28	15:38	22:00
		0.1	3.3	0.2	3.6				—0.1	3.5	0.0	3.7				—0.2	3.9	—0.3	3.8	
	W	7	1:04	7:18	13:20	19:45		S	7	2:34	8:50	14:56	21:20	☾	Tu	7	4:05	10:22	16:30	22:52
		0.0	3.4	0.1	3.7				—0.1	3.6	—0.1	3.7				—0.2	3.9	—0.4	3.8	
P	Th	8	1:58	8:13	14:13	20:40	☾	S	8	3:30	9:47	15:54	22:18		W	8	4:55	11:14	17:23	23:44
		—0.1	3.5	0.1	3.7				—0.2	3.7	—0.2	3.8				—0.2	4.0	—0.3	3.7	
	F	9	2:52	9:08	15:10	21:35		M	9	4:30	10:41	16:50	23:12	N	Th	9	5:45	12:05	18:15	24:45
		—0.1	3.6	0.0	3.7				—0.2	3.7	—0.3	3.8				—0.1	3.9	—0.2	3.8	
☾	S	10	3:47	10:04	16:07	22:30		Tu	10	5:16	11:35	17:43	24:12		F	10	0:35	6:34	12:55	19:06
		—0.2	3.6	—0.1	3.7				—0.2	3.8	—0.3	3.8				3.6	0.0	3.8	—0.1	
	S	11	4:40	10:56	17:04	23:27		W	11	0:07	6:08	12:28	18:38		S	11	1:25	7:24	13:45	19:57
		—0.2	3.7	—0.2	3.7				3.7	—0.2	3.8	—0.2				3.5	0.1	3.7	0.1	
	M	12	5:33	11:52	18:00	24:10		Th	12	0:58	7:00	13:20	19:31		S	12	2:15	8:11	14:38	20:48
		—0.2	3.7	—0.2	3.7				3.6	—0.1	3.8	—0.1				3.3	0.3	3.5	0.2	
	Tu	13	0:22	6:27	12:47	18:56	N	F	13	1:50	7:48	14:12	20:23		M	13	3:05	9:02	15:26	21:38
		3.7	—0.1	3.7	—0.2				3.5	0.0	3.7	0.0				3.1	0.4	3.3	0.4	
	W	14	1:18	7:20	13:41	19:52		S	14	2:42	8:38	15:02	21:15		Tu	14	3:55	9:50	16:20	22:29
		3.6	0.0	3.7	—0.1				3.4	0.2	3.6	0.1				3.0	0.6	3.1	0.6	
	Th	15	2:13	8:12	14:34	20:46		S	15	3:34	9:27	15:53	22:07	☾	W	15	4:46	10:40	17:10	23:20
		3.5	0.0	3.7	—0.1				3.2	0.3	3.5	0.3				2.9	0.7	3.0	0.7	
N	F	16	3:07	9:04	15:27	21:40	☾	M	16	4:25	10:17	16:43	22:57	E	Th	16	5:35	11:28	18:00	24:40
		3.4	0.1	3.7	0.0				3.1	0.5	3.3	0.4				2.8	0.8	2.9	0.8	
●	S	17	4:00	9:55	16:18	22:32		Tu	17	5:14	11:06	17:35	23:46		F	17	0:04	6:20	12:20	18:49
		3.3	0.2	3.6	0.1				3.0	0.6	3.2	0.5				0.8	2.8	0.8	2.8	
	S	18	4:52	10:45	17:09	23:22		W	18	6:03	11:54	18:23	24:40		S	18	0:48	7:02	13:05	19:34
		3.2	0.3	3.5	0.2				2.9	0.7	3.1	0.6				0.8	2.8	0.7	2.9	
	M	19	5:42	11:35	18:00	24:10		Th	19	0:33	6:50	12:42	19:12		S	19	1:30	7:46	13:50	20:16
		3.1	0.4	3.4	0.0				0.6	2.8	0.7	3.0				0.7	2.9	0.6	2.9	
	Tu	20	0:12	6:32	12:23	18:48	A	F	20	1:18	7:35	13:30	19:58		M	20	2:14	8:30	14:34	20:58
		0.3	3.1	0.5	3.3				0.6	2.8	0.7	3.0				0.6	3.0	0.4	3.0	
	W	21	1:00	7:20	13:11	19:37		S	21	2:02	8:20	14:15	20:43		Tu	21	2:52	9:10	15:18	21:38
		0.4	3.0	0.6	3.3				0.6	2.9	0.6	2.9				0.5	3.2	0.3	3.1	
	Th	22	1:47	8:05	13:58	20:24		S	22	2:44	9:00	15:02	21:27		W	22	3:33	9:55	16:04	22:20
		0.4	3.0	0.6	3.2				0.6	3.0	0.5	3.0				0.1	3.3	0.2	3.2	
A	F	23	2:32	8:50	14:46	21:10		M	23	3:27	9:43	15:48	22:10	☾	Th	23	4:15	10:40	16:48	23:00
		0.4	3.0	0.6	3.1				0.5	3.1	0.4	3.1				0.3	3.5	0.1	3.3	
E	S	24	3:16	9:35	15:32	21:56	☾	Tu	24	4:08	10:27	16:33	22:52		S	24	5:00	11:25	17:34	23:48
		0.5	3.0	0.5	3.1				0.5	3.2	0.3	3.1				0.2	3.6	0.0	3.4	
☾	S	25	3:58	10:18	16:18	22:42		W	25	4:48	11:12	17:18	23:34		S	25	5:48	12:14	18:25	24:40
		0.5	3.1	0.5	3.1				0.4	3.3	0.2	3.2				0.1	3.6	—0.1	3.5	
	M	26	4:42	11:00	17:04	23:26		Th	26	5:32	11:57	18:04	24:40		S	26	0:36	6:40	13:05	19:14
		0.5	3.1	0.4	3.1				0.4	3.4	0.1	3.3				3.4	0.1	3.7	—0.1	
	Tu	27	5:24	11:45	18:51	24:10	S	F	27	0:20	6:17	12:43	18:53		M	27	1:27	7:28	13:58	20:06
		0.4	3.2	0.3	3.3				3.2	0.2	3.5	0.0				3.4	0.0	3.6	0.0	
	W	28	0:10	6:07	12:31	18:38		S	28	1:07	7:05	13:32	19:43		Tu	28	2:20	8:23	14:50	21:00
		3.1	0.4	3.3	0.3				3.3	0.2	3.6	0.0				3.4	0.0	3.6	0.0	
	Th	29	0:55	6:50	13:18	19:27		S	29	1:55	7:53	14:23	20:33		W	29	3:15	9:20	15:50	22:00
		3.1	0.4	3.4	0.2				3.3	0.1	3.6	0.0				3.4	0.0	3.6	0.0	
	F	30	1:42	7:37	14:07	20:14		M	30	2:46	8:47	15:17	21:27	☾	Th	30	4:15	10:24	16:50	23:00
		3.1	0.3	3.4	0.2				3.3	0.1	3.6	0.0				3.5	0.0	3.6	0.0	
S	S	31	2:28	8:24	14:55	21:05	☾	Tu	31	3:40	9:41	16:13	22:24							
		3.2	0.3	3.5	0.1				3.3	0.1	3.6	0.0								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is New Zealand Standard, 172° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
	F 1	5:16	11:25	17:50	3.5		M 1	0:32	6:50	13:05	19:15		W 1	1:00	7:18	13:34	19:34
		3.5	—0.1	3.6				—0.1	3.8	—0.3	3.7			0.0	3.9	—0.2	3.5
	S 2	0:00	6:15	12:25	18:50	N	Tu 2	1:28	7:45	14:00	20:20		Th 2	1:50	8:10	14:24	20:40
		0.0	3.6	—0.1	3.7			—0.1	3.9	—0.3	3.7			1:50	3.8	—0.2	3.5
	S 3	0:57	7:14	13:25	19:47		W 3	2:20	8:38	14:53	21:10		F 3	2:40	9:00	15:13	21:30
		—0.1	3.7	—0.3	3.8			—0.1	4.0	—0.3	3.7			0.1	3.8	—0.1	3.5
	M 4	1:54	8:10	14:22	20:44		Th 4	3:10	9:28	15:44	22:00		S 4	3:32	9:50	16:00	22:20
		—0.2	3.9	—0.3	3.8			—0.1	3.9	—0.3	3.7			0.1	3.7	0.0	3.4
	Tu 5	2:48	9:04	15:15	21:37	C	F 5	4:02	10:20	16:30	22:50		● S 5	4:20	10:40	16:50	23:10
		—0.2	4.0	—0.4	3.8			—0.1	3.8	—0.2	3.6		●	0.2	3.6	0.1	3.3
N	W 6	3:40	9:58	16:08	22:30		S 6	4:50	11:10	17:20	23:40		M 6	5:06	11:30	17:36	23:40
☾		—0.2	4.0	—0.4	3.8			0.0	3.7	—0.1	3.5			0.3	3.4	0.2	3.1
	Th 7	4:30	10:48	16:58	23:18		S 7	5:39	12:00	18:10	24:30		E Tu 7	0:00	5:58	12:20	18:24
		—0.2	4.0	—0.3	3.7			0.1	3.6	0.1			● A	3.2	0.3	3.3	0.5
	F 8	5:18	11:38	17:48	24:06		M 8	0:28	6:27	12:50	18:57		W 8	0:48	6:48	13:10	19:10
		—0.1	3.9	—0.2				3.3	0.3	3.4	0.3			3.2	0.4	3.2	0.5
	S 9	0:08	6:06	12:29	18:36		Tu 9	1:16	7:16	13:40	19:45		Th 9	1:34	7:34	14:00	19:58
		3.6	0.0	3.7	0.0			3.2	0.4	3.2	0.4			3.1	0.5	3.0	0.5
	S 10	0:57	6:55	13:20	19:28	A	W 10	2:06	8:06	14:34	20:34		F 10	2:20	8:22	14:47	20:40
		3.4	0.2	3.5	0.2	● E		3.1	0.5	3.1	0.6			3.0	0.5	2.9	0.5
	M 11	1:46	7:44	14:10	20:18		Th 11	2:54	8:55	15:25	21:20		S 11	3:04	9:10	15:35	21:25
		3.2	0.3	3.3	0.4			2.9	0.6	2.9	0.7			3.0	0.5	2.9	0.7
	Tu 12	2:38	8:35	15:02	21:08		F 12	3:40	9:44	16:12	22:07		S 12	3:50	9:58	16:20	22:09
		3.1	0.5	3.1	0.5			2.9	0.6	2.9	0.8			3.1	0.5	2.9	0.7
E	W 13	3:25	9:24	15:54	21:57	●	S 13	4:28	10:34	17:00	22:50		● M 13	4:34	10:44	17:04	22:52
A		2.9	0.6	3.0	0.7			2.9	0.6	2.8	0.8			3.1	0.5	2.9	0.7
●	Th 14	4:16	10:15	16:45	22:44		S 14	5:16	11:20	17:45	23:35		S Tu 14	5:20	11:30	17:46	23:38
		2.8	0.7	2.9	0.8			2.9	0.6	2.8	0.7			3.2	0.4	2.9	0.6
	F 15	5:03	11:05	17:34	23:30		M 15	5:56	12:05	18:28			W 15	6:06	12:17	18:35	24:24
		2.8	0.7	2.8	0.8			3.0	0.5	2.9				3.3	0.3	3.0	
	S 16	5:48	11:50	18:20			Tu 16	0:17	6:39	12:50	19:10		Th 16	0:25	6:52	13:05	19:18
		2.8	0.7	2.8				0.7	3.1	0.4	3.0			0.5	3.4	0.2	3.1
	S 17	0:15	6:30	12:35	19:05	S	W 17	1:00	7:24	13:35	19:55		F 17	1:15	7:43	13:54	20:10
		0.8	2.9	0.6	2.9			0.6	3.3	0.3	3.1			0.3	3.5	0.1	3.2
	M 18	0:56	7:14	13:20	19:46		Th 18	1:45	8:07	14:20	20:35		S 18	2:06	8:32	14:44	21:00
		0.7	3.0	0.5	2.9			0.4	3.4	0.1	3.2			0.2	3.5	0.0	3.4
	Tu 19	1:37	7:55	14:05	20:25		F 19	2:30	8:55	15:08	21:20		S 19	2:58	9:25	15:35	21:50
		0.6	3.1	0.4	3.0			0.3	3.5	0.0	3.3			0.1	3.6	—0.1	3.3
	W 20	2:18	8:40	14:48	21:08		S 20	3:20	9:45	15:55	22:10		● M 20	3:52	10:18	16:26	22:45
		0.5	3.3	0.2	3.1			0.2	3.6	0.0	3.4		● D	0.1	3.6	—0.1	3.3
s	Th 21	3:00	9:23	15:32	21:49	●	S 21	4:10	10:35	16:45	23:00		E Tu 21	4:47	11:12	17:20	23:38
		0.4	3.4	0.1	3.3			0.1	3.6	—0.1	3.5			0.0	3.6	—0.1	3.3
D	F 22	3:45	10:10	16:20	22:35		M 22	5:02	11:27	17:36	23:53		W 22	5:45	12:07	18:14	24:24
		0.2	3.5	0.0	3.4			0.0	3.6	—0.1	3.5			—0.1	3.6	—0.1	3.3
	S 23	4:30	10:58	17:06	23:22		Tu 23	5:58	12:20	18:29			P Th 23	0:32	6:40	13:05	19:08
		0.1	3.6	—0.1	3.4			0:0	3.6	—0.1				3.6	—0.1	3.6	—0.1
	S 24	5:20	11:48	17:55		E	W 24	0:48	6:52	13:18	19:24		F 24	1:28	7:38	14:00	20:04
		0.1	3.7	—0.1				3.6	0.0	3.6	0.0			3.7	—0.1	3.6	0.0
	M 25	0:12	6:12	12:40	18:48		Th 25	1:44	7:50	14:16	20:22		S 25	2:25	8:26	14:57	20:58
		3.5	0.0	3.6	—0.1			3.6	—0.1	3.6	0.0			3.7	—0.1	3.5	0.0
	Tu 26	1:05	7:08	13:34	19:42	P	F 26	2:40	8:50	15:15	21:16		S 26	3:20	9:34	15:54	21:50
		3.5	0.0	3.6	0.0			3.6	—0.1	3.6	0.0			3.7	—0.1	3.5	0.1
E	W 27	2:00	8:04	14:32	20:40	●	S 27	3:38	9:50	16:12	22:15		● M 27	4:13	10:26	16:48	22:45
		3.5	0.0	3.5	0.0			3.7	—0.1	3.5	0.0		● N	3.8	—0.1	3.5	0.1
P	Th 28	2:58	9:05	15:32	21:40		S 28	4:35	10:50	17:10	23:11		Tu 28	5:08	11:22	17:40	23:38
		3.5	0.0	3.6	0.0			3.7	—0.2	3.5	0.0			3.8	—0.1	3.4	0.1
○	F 29	3:55	10:06	16:34	22:36		M 29	5:30	11:45	18:06			W 29	6:00	12:14	18:33	
		3.5	—0.1	3.6	0.0			3.8	—0.2	3.6				3.7	0.0	3.4	
	S 30	4:56	11:10	17:30	23:36	N	Tu 30	0:05	6:25	12:40	19:00		Th 30	0:28	6:50	13:05	19:25
		3.6	—0.1	3.6	0.0			0.0	3.8	—0.2	3.6			0.2	3.7	0.0	3.3
	S 31	5:54	12:06	18:30									F 31	1:20	7:42	13:55	20:14
		3.7	—0.2	3.7										0.2	3.6	0.1	3.3

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.8 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is New Zealand Standard, 172° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.							FEBRUARY.							MARCH.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
	F	1	1:48 8.2	7:36 1.1	14:10 8.4	20:17 0.8		M	1	3:24 8.1	9:25 1.7	15:47 7.9	21:54 1.2		M	1	1:52 8.2	7:50 1.5	14:18 7.8	20:22 1.3
	S	2	2:50 8.2	8:44 1.3	15:10 8.3	21:20 0.8	N	Tu	2	4:24 8.1	10:35 1.7	16:47 7.8	22:55 1.2	N	Tu	2	2:57 7.9	9:02 1.9	15:24 7.5	21:28 1.6
	S	3	3:50 8.3	9:50 1.4	16:10 8.2	22:18 0.8		W	3	5:22 8.2	11:40 1.6	17:45 7.8	23:52 1.1		W	3	4:00 7.8	10:16 2.0	16:28 7.5	22:36 1.1
	M	4	4:48 8.4	10:52 1.4	17:09 8.3	23:13 0.7		Th	4	6:15 8.4	12:33 1.5	18:38 8.0			Th	4	5:00 7.9	11:22 1.8	17:28 7.5	23:36 1.5
	Tu	5	5:40 8.6	11:50 1.3	18:00 8.3		O	F	5	0:40 1.0	7:02 8.5	13:18 1.4	19:23 8.0		F	5	5:53 8.0	12:17 1.6	18:20 7.7	
N	W	6	0:05 0.6	6:32 8.8	12:40 1.1	18:50 8.3		S	6	1:22 0.9	7:45 8.6	13:55 1.3	20:06 8.1		S	6	0:27 1.3	6:40 8.2	12:58 1.5	19:04 7.8
O	Th	7	0:53 0.5	7:20 8.9	13:27 1.1	19:38 8.3		S	7	2:02 0.9	8:24 8.7	14:28 1.2	20:45 8.1	A	S	7	1:05 1.2	7:22 8.3	13:30 1.3	19:44 8.0
	F	8	1:35 0.5	8:02 9.0	14:10 1.1	20:23 8.2	A	M	8	2:33 0.9	9:00 8.6	15:00 1.1	21:20 8.0		M	8	1:38 1.1	7:58 8.4	14:00 1.2	20:19 8.1
	S	9	2:16 0.6	8:45 8.9	14:50 1.1	21:05 8.1		Tu	9	3:07 0.9	9:37 8.5	15:30 0	21:57 8.0	E	Tu	9	2:10 1.0	8:33 8.4	14:28 1.0	20:53 8.2
	S	10	2:45 0.7	9:25 8.8	15:22 1.1	21:45 7.9	E	W	10	3:40 0.9	10:13 8.4	16:02 0.9	22:38 7.9		W	10	2:38 0.9	9:07 8.4	14:57 0.7	21:26 8.3
	M	11	3:30 0.9	10:05 8.5	15:55 1.1	22:27 7.8		Th	11	4:13 1.0	10:50 8.2	16:38 0.8	23:10 7.9		Th	11	3:12 0.8	9:40 8.4	15:30 0.6	22:00 8.3
A	Tu	12	4:05 1.1	10:45 8.3	16:35 1.2	23:07 7.6		F	12	4:50 1.1	11:27 8.0	17:17 0.8	23:52 7.8		F	12	3:46 0.8	10:15 8.2	16:06 0.5	22:38 8.2
	W	13	4:45 1.2	11:25 8.0	17:13 1.2	23:48 7.5		S	13	5:31 1.2	12:07 7.8	18:00 0.9			S	13	4:22 0.8	10:52 8.1	16:45 0.6	23:20 8.2
E	Th	14	5:25 1.4	12:05 7.8	17:55 1.2		C	S	14	0:38 7.7	6:17 1.3	12:55 7.6	18:50 1.0		S	14	5:03 0.9	11:34 7.9	17:28 0.7	
C	F	15	0:32 7.4	6:07 1.6	12:50 7.6	18:40 1.3		M	15	1:30 7.6	7:08 1.4	13:47 7.4	19:45 1.1	C	M	15	0:05 8.0	5:50 1.0	12:22 7.9	18:17 0.8
	S	16	1:22 7.3	6:55 1.7	13:36 7.4	19:30 1.3		Tu	16	2:28 7.6	8:07 1.5	14:48 7.4	20:48 1.1	S	Tu	16	1:00 7.9	6:42 1.2	13:18 7.4	19:12 1.0
	S	17	2:12 7.4	7:47 1.8	14:30 7.4	20:25 1.2	S	W	17	3:30 7.8	9:18 1.5	15:53 7.5	21:47 0.9		W	17	1:57 7.8	7:42 1.4	14:22 7.4	20:15 1.1
	M	18	3:10 7.5	8:45 1.7	15:25 7.4	21:20 1.1		Th	18	4:32 8.1	10:22 1.3	16:57 7.9	22:52 0.7		Th	18	3:02 7.8	8:50 1.4	15:30 7.5	21:20 1.1
	Tu	19	4:05 7.8	9:48 1.6	16:23 7.6	22:20 0.8		F	19	5:32 8.6	11:27 0.9	17:56 8.3	23:53 0.3		F	19	4:06 8.1	10:00 1.2	16:37 7.9	22:30 0.8
S	W	20	5:02 8.2	10:50 1.3	17:20 7.9	23:17 0.5	●	S	20	6:27 9.1	12:27 0.4	18:52 8.8			S	20	5:09 8.5	11:07 0.8	17:38 8.4	23:34 0.4
	Th	21	5:55 8.7	11:48 0.9	18:17 8.3		P	S	21	0:50 -0.1	7:20 9.5	13:22 0.0	19:44 9.2	P	S	21	6:05 9.0	12:07 0.3	18:32 9.0	
●	F	22	0:13 0.2	6:50 9.1	12:45 0.5	19:10 8.7		M	22	1:43 -0.4	8:10 9.9	14:13 -0.4	20:35 9.5	●	M	22	0:30 0.0	7:00 9.5	13:00 -0.2	19:25 9.5
	S	23	1:06 -0.2	7:40 9.5	13:38 0.2	20:02 9.0	E	Tu	23	2:33 -0.6	9:00 10.0	15:02 -0.6	21:24 9.7		Tu	23	1:23 -0.4	7:49 9.9	13:50 -0.6	20:15 9.8
P	S	24	1:58 -0.4	8:30 9.8	14:30 -0.1	20:52 9.2		W	24	3:22 -0.6	9:48 10.0	15:50 -0.6	22:15 9.7		W	24	2:12 -0.6	8:38 10.0	14:38 -0.8	21:02 10.0
	M	25	2:48 -0.5	9:20 9.9	15:21 -0.3	21:44 9.3		Th	25	4:10 -0.4	10:38 9.8	16:35 -0.4	23:05 9.4		Th	25	3:01 -0.6	9:25 10.0	15:26 -0.8	21:50 9.9
	Tu	26	3:38 -0.4	10:10 9.8	16:10 -0.3	22:35 9.2		F	26	5:00 -0.1	11:28 9.3	17:28 -0.1	23:57 9.1		F	26	3:50 -0.4	10:13 9.7	16:11 -0.5	22:40 9.6
E	W	27	4:30 -0.2	11:00 9.6	17:00 -0.2	23:28 9.0	●	S	27	6:52 0.5	12:22 8.8	18:20 0.4			S	27	4:37 0.0	11:02 9.2	17:00 -0.1	23:31 9.2
	Th	28	5:20 0.1	11:52 9.3	17:54 0.1			S	28	0:53 8.6	6:47 1.0	13:17 8.2	19:17 0.9		S	28	5:30 0.5	11:55 8.6	17:52 0.5	
D	F	29	0:22 8.8	6:15 0.6	12:46 8.8	18:48 0.4								D	M	29	0:25 8.7	6:23 1.1	12:52 8.0	18:47 1.1
	S	30	1:20 8.5	7:13 1.0	13:44 8.4	19:46 0.8									Tu	30	1:24 8.2	7:25 1.6	13:53 7.6	19:50 1.6
	S	31	2:20 8.2	8:16 1.4	14:44 8.1	20:50 1.0									W	31	2:27 7.8	8:35 2.0	15:00 7.3	21:00 1.9

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is New Zealand Standard for the meridian 132° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.										
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	3:30 7.7	9:50 2.0	16:06 7.3	22:10 1.9	A	S	1	3:53 7.5	10:10 2.0	16:30 7.3	22:30 2.1	O	Tu	1	4:42 7.5	10:40 1.6	17:15 7.6	23:00 2.0
	F	2	4:30 7.7	10:55 1.9	17:05 7.4	23:10 1.8	S	2	4:46 7.6	11:00 1.8	17:19 7.5	23:18 1.9	W		2	5:25 7.6	11:20 1.2	17:55 8.0	23:40 1.7	
	S	3	5:25 7.8	11:47 1.7	17:55 7.6	23:55 1.8	E	M	3	5:30 7.7	11:40 1.6	18:00 7.7	23:56 1.8		Th	3	6:10 7.8	12:00 0.9	18:35 8.3	24:00 1.8
	S	4	6:00 1.6	6:12 8.1	12:25 1.5	18:39 7.8	Tu	4	6:12 7.9	12:12 1.3	18:38 8.0	24:00 1.9	F		4	6:22 1.3	6:50 8.0	12:42 0.6	19:20 8.6	
E	M	5	6:40 1.5	6:50 8.1	12:57 1.3	19:15 8.0	O	W	5	6:28 1.5	6:50 8.0	12:42 1.0	19:12 8.3	S	5	1:05 1.0	7:32 8.2	13:25 0.3	20:00 8.9	
O	Tu	6	1:09 1.3	7:30 8.2	13:30 1.1	19:50 8.2	Th	6	1:01 1.3	7:25 8.1	13:16 0.7	19:50 8.5	S	6	1:50 0.7	8:15 8.3	14:07 0.1	20:46 9.0		
S	W	7	1:40 1.1	8:00 8.3	13:55 0.8	20:22 8.4	F	7	1:36 1.0	8:00 8.2	13:52 0.4	20:27 8.7	M	7	2:35 0.6	9:00 8.3	14:55 0.1	21:32 9.0		
	Th	8	2:10 0.9	8:37 8.4	14:25 0.6	20:57 8.6	S	8	2:15 0.8	8:40 8.3	14:30 0.2	21:09 8.8	Tu	8	3:22 0.5	9:50 8.3	15:40 0.2	22:10 9.0		
	F	9	2:43 0.8	9:10 8.3	15:00 0.4	21:34 8.6	S	9	2:55 0.6	9:20 8.2	15:13 0.2	21:50 8.8	W	9	4:15 0.5	10:42 8.2	16:30 0.4	23:10 8.8		
	S	10	3:18 0.7	9:45 8.2	15:37 0.3	22:11 8.5	S	M	10	3:40 0.6	10:05 8.1	15:58 0.3	22:35 8.7	Th	10	5:05 0.6	11:35 8.1	17:24 0.6	24:00 9.0	
M	S	11	3:58 0.7	10:25 8.1	16:19 0.4	22:55 8.4	Tu	11	4:25 0.7	10:53 8.0	16:45 0.5	23:26 8.5	C	F	11	6:05 8.6	6:00 0.7	12:35 8.0	25:00 9.0	
	M	12	4:40 0.8	11:10 7.9	17:02 0.6	23:43 8.2	W	12	5:15 0.8	11:46 7.8	17:35 0.8	24:00 8.8	S	12	1:00 8.5	7:00 0.8	13:35 8.0	19:10 9.0		
	Tu	13	5:30 0.9	12:00 7.7	17:50 0.8	24:30 8.2	C	Th	13	6:20 8.3	6:12 1.0	12:45 7.7	18:33 1.0	E	S	13	2:00 8.4	8:00 0.8	14:35 8.1	20:20 9.0
	W	14	6:35 8.0	6:23 1.1	13:00 7.5	18:50 1.0	F	14	1:16 8.2	7:12 1.1	13:50 7.7	19:33 1.2	M	14	3:00 8.4	9:00 0.7	15:35 8.3	21:10 9.0		
P	Th	15	1:35 7.9	7:25 1.3	14:03 7.4	19:50 1.2	S	15	2:19 8.1	8:17 1.1	14:55 7.9	20:40 1.2	Tu	15	3:55 8.5	10:00 0.6	16:33 8.6	22:30 9.0		
	F	16	2:38 7.9	8:30 1.3	15:10 7.6	21:00 1.2	E	S	16	3:20 8.3	9:23 0.9	15:57 8.2	21:48 1.1	W	16	4:52 8.6	10:58 0.3	17:28 8.9	23:20 9.0	
	S	17	3:43 8.1	9:40 1.1	16:15 8.0	22:08 1.0	P	M	17	4:20 8.5	10:23 0.5	16:55 8.6	22:50 0.8	Th	17	5:46 8.7	11:50 0.1	18:20 9.2	24:10 9.0	
	S	18	4:43 8.5	10:47 0.7	17:16 8.6	23:12 0.6	Tu	18	5:16 8.9	11:20 0.2	17:50 9.1	23:50 0.5	F	18	6:22 0.7	6:40 8.8	12:40 0.0	19:10 9.4		
N	M	19	5:40 9.0	11:43 0.2	18:10 9.1	24:10 0.6	W	19	6:09 9.1	12:10 -0.2	18:40 9.5	24:50 0.9	N	S	19	1:15 0.6	7:30 8.8	13:30 0.0	20:00 9.4	
	Tu	20	6:10 0.2	6:33 9.4	12:35 -0.3	19:00 9.6	Th	20	6:40 0.2	7:00 9.3	13:00 -0.4	19:27 9.7	S	20	2:02 0.6	8:18 8.7	14:15 0.1	20:15 9.4		
	W	21	1:00 -0.2	7:22 9.7	13:25 -0.6	19:50 9.9	F	21	1:30 0.1	7:49 9.4	13:47 -0.5	20:17 9.8	M	21	2:50 0.6	9:05 8.6	15:00 0.2	21:20 9.2		
	Th	22	1:50 -0.4	8:12 9.8	14:10 -0.8	20:38 10.0	S	22	2:20 0.1	8:37 9.2	14:35 -0.4	21:05 9.7	Tu	22	3:35 0.8	9:55 8.3	15:45 0.6	22:20 9.0		
D	F	23	2:38 -0.4	9:00 9.7	15:00 -0.7	21:28 9.9	N	S	23	3:07 0.2	9:25 8.9	15:20 -0.1	21:55 9.5	W	23	4:20 1.0	10:45 8.0	16:30 0.9	23:00 8.6	
	S	24	3:28 -0.2	9:47 9.4	15:45 -0.4	22:15 9.6	M	24	3:58 0.5	10:15 8.6	16:09 0.3	22:42 9.1	Th	24	5:05 1.2	11:30 7.7	17:15 1.3	23:50 8.2		
	S	25	4:15 0.2	10:37 8.9	16:35 0.0	23:05 9.2	Tu	25	4:45 0.8	11:07 8.2	16:58 0.8	23:33 8.7	A	F	25	5:50 1.4	12:20 7.5	18:00 1.6	24:50 8.4	
	M	26	5:05 0.6	11:30 8.4	17:25 0.6	24:00 9.2	W	26	5:33 1.2	12:00 7.8	17:47 1.3	24:00 9.2	E	S	26	6:40 7.8	6:35 1.6	13:10 7.3	25:50 8.4	
E	Tu	27	6:00 8.7	6:00 1.1	12:26 7.9	18:17 1.2	D	Th	27	6:25 8.2	6:27 1.6	12:57 7.4	18:40 1.7	S	27	1:25 7.6	7:20 1.7	14:00 7.1	26:50 8.4	
	W	28	6:55 8.2	7:00 1.6	13:28 7.5	19:18 1.7	F	28	1:20 7.8	7:22 1.8	13:55 7.2	19:35 2.0	M	28	2:15 7.4	8:07 1.7	14:50 7.2	27:50 8.4		
	Th	29	1:55 7.8	8:03 1.9	14:30 7.2	20:27 2.0	A	S	29	2:13 7.6	8:20 2.0	14:50 7.1	20:33 2.2	Tu	29	3:03 7.3	8:56 1.7	15:40 7.3	28:50 8.4	
	F	30	2:55 7.6	9:12 2.0	15:35 7.2	21:30 2.1	E	S	30	3:05 7.4	9:12 2.0	15:45 7.2	21:28 2.3	W	30	3:51 7.3	9:45 1.5	16:30 7.6	29:50 8.4	
							M	31	3:55 7.4	10:00 1.8	16:32 7.4	22:17 2.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is New Zealand Standard, for the meridian, 132° 30' E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
O	Th	1	4:40	10:38	17:17	23:03					O	S	1	5:52	11:50	18:25						E	W	1	0:55	7:18	13:17	19:44				
			7.5	1.2	7.9	1.7								7.9	0.6	8.7									0.2	9.0	—0.2	9.6				
	F	2	5:30	11:27	18:08	23:53						M	2	0:22	6:45	12:44	19:16						Th	2	1:45	8:08	14:08	20:32				
			7.7	0.9	8.3	1.4								1.0	8.3	0.3	9.1								—0.2	9.4	—0.4	9.9				
	S	3	6:18	12:16	18:50							Tu	3	1:15	7:37	13:34	20:06						F	3	2:35	8:57	14:55	21:20				
P			7.9	0.6	8.7									0.5	8.7	0.0	9.4								—0.5	9.6	—0.5	9.9				
	S	4	0:44	7:07	13:02	19:38					P	W	4	2:07	8:27	14:24	20:54					C	S	4	3:24	9:45	15:45	22:10				
			1.1	8.2	0.3	9.0						0.2	8.9	—0.2	9.6							—0.6	9.7	—0.4	9.8							
	M	5	1:33	7:55	13:52	20:26				Th	5	2:57	9:18	15:14	21:43							4:12	10:35	16:35	23:00							
			0.7	8.4	0.1	9.2						—0.1	9.1	—0.3	9.6							—0.5	9.6	—0.2	9.4							
	Tu	6	2:33	8:44	14:40	21:14				E	F	6	3:47	10:08	16:04	22:34					M	6	5:02	11:28	17:27	23:52						
E			0.5	8.5	0.0	9.3						—0.2	9.2	—0.2	9.5							—0.2	9.3	0.3	9.0							
	W	7	3:13	9:35	15:28	22:03				E	S	7	4:36	11:00	16:50	23:25							5:55	12:25	18:25							
			0.3	8.6	0.0	9.3							—0.1	9.1	0.1	9.3							0.2	8.9	0.8							
	Th	8	4:08	10:27	16:18	22:55					C	S	8	5:27	11:53	17:48							0:50	6:52	12:52	19:27						
			0.3	8.6	0.2	9.2							0.0	8.9	0.4								8.5	0.7	8.5	1.2						
	F	9	4:55	11:22	17:12	23:47					M	9	0:18	6:21	12:51	18:45							1:50	7:57	14:28	20:40						
C			0.3	8.6	0.4	9.0							9.0	0.3	8.7	0.8							8.0	1.1	8.2	1.6						
	S	10	5:48	12:16	18:07					C	Tu	10	1:13	7:18	13:50	19:47							2:57	9:10	15:32	21:55						
			0.4	8.5	0.7								8.6	0.6	8.4	1.2							7.7	1.3	8.1	1.6						
	S	11	0:42	6:45	13:11	19:05					W	11	2:13	8:20	14:50	20:56							4:02	10:16	16:35	23:00						
			8.8	0.5	8.4	0.9							8.3	0.8	8.3	1.4							7.7	1.3	8.1	1.5						
	M	12	1:38	7:43	14:14	20:08					Th	12	3:15	9:25	15:54	22:06							5:04	11:20	17:30	23:56						
N			8.6	0.6	8.3	1.2							8.0	1.0	8.3	1.5							7.8	1.2	8.3	1.3						
	Tu	13	2:35	8:43	15:15	21:12				N	F	13	4:17	10:30	16:58	23:12							5:57	12:10	18:20							
			8.4	0.7	8.3	1.3							8.0	1.0	8.3	1.4							8.0	1.1	8.4							
	W	14	3:35	9:45	16:12	22:19					S	14	5:16	11:28	17:47							0:43	6:45	12:55	19:04							
			8.3	0.7	8.6	1.3							8.0	0.9	8.5							1.1	8.1	1.0	8.5							
	Th	15	4:33	10:43	17:09	23:20					S	15	0:10	6:12	12:22	18:38							1:20	7:27	13:30	19:43						
A			8.8	0.6	8.6	1.2							1.2	8.1	0.8	8.7							1.0	8.3	0.9	8.6						
	F	16	5:29	11:40	18:08					A	M	16	1:00	7:00	13:10	19:25							1:55	8:05	14:05	20:20						
			8.3	0.5	8.8								1.1	8.2	0.7	8.8							0.9	8.3	0.9	8.6						
	S	17	0:18	6:23	12:32	18:55					Tu	17	1:40	7:47	13:50	20:08							2:22	8:40	14:38	20:52						
			1.1	8.4	0.4	9.0							1.0	8.3	0.7	8.8							0.9	8.3	0.9	8.5						
	S	18	1:08	7:15	13:20	19:42					W	18	2:20	8:30	14:30	20:48							2:53	9:13	15:00	21:28						
D			0.9	8.5	0.4	9.1							0.9	8.3	0.7	8.8							0.8	8.3	1.0	8.3						
	M	19	1:55	8:03	14:05	20:27				D	Th	19	2:53	9:09	15:03	21:25							3:17	9:50	15:30	22:00						
			0.9	9.0	0.4	9.1							0.9	8.3	0.8	8.6							0.8	8.3	1.0	8.1						
	Tu	20	2:38	8:48	14:47	21:11					A	F	20	3:25	9:45	15:35	22:02							3:50	10:23	16:05	22:35					
			0.9	8.4	0.6	9.0							1.0	8.2	1.0	8.4							0.7	8.2	1.0	7.9						
	W	21	3:20	9:33	15:30	21:54							3:58	10:22	16:07	22:38							4:25	11:02	16:43	23:15						
E			0.9	8.2	0.7	8.8							1.0	8.0	1.1	8.2							0.8	8.0	1.1	7.6						
	Th	22	4:00	10:16	16:07	22:36				E	S	22	4:30	11:00	16:41	23:15							5:07	11:45	17:27							
			1.0	8.0	1.0	8.5							1.0	7.9	1.2	7.9							0.9	7.8	1.3							
	F	23	4:37	10:58	16:43	23:15					M	23	5:05	11:40	17:18	23:55							0:00	5:52	12:35	18:17						
			1.2	7.8	1.2	8.2							1.0	7.7	1.4	7.6							7.4	1.1	7.7	1.4						
	S	24	5:13	11:42	17:19	23:56							5:45	12:23	18:00							0:55	6:46	13:32	19:16							
D			1.3	7.6	1.5	7.9							1.1	7.6	1.5							7.2	1.3	7.6	1.6							
	S	25	5:52	12:25	17:58					D	W	25	0:38	6:30	13:12	18:50							1:55	7:46	14:35	20:22						
			1.4	7.4	1.7								7.4	1.4	7.5	1.6							7.1	1.4	7.6	1.6						
	M	26	0:39	6:34	13:10	18:40							1:30	7:20	14:07	19:45							3:03	8:53	15:40	21:35						
			7.6	1.5	7.3	1.8							7.2	1.4	7.5	1.7							7.3	1.4	7.8	1.6						
	Tu	27	1:23	7:17	13:58	19:30					S	F	27	2:25	8:20	15:05	20:45							4:10	10:03	16:40	22:40					
A			7.4	1.5	7.3	1.9							7.1	1.4	7.6	1.8							7.6	1.1	8.2	1.0						
	W	28	2:12																													

OCTOBER.					NOVEMBER.					DECEMBER.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
N C	F 1	1:25	7:45	13:48	20:10	N C	M 1	2:34	9:00	15:04	21:22	N C	W 1	3:02	9:30	15:35	21:52
	S 2	—0.5	9.7	—0.5	9.9		Tu 2	—0.8	10.0	—0.3	9.6		Th 2	—0.4	9.8	0.2	8.9
	S 3	2:12	8:33	14:35	20:55		W 3	3:21	9:50	15:52	22:10		F 3	3:51	10:20	16:26	22:44
	M 4	—0.8	10.0	—0.6	9.9		Th 4	4:10	10:42	16:45	23:05		S 4	0.0	9.4	0.5	8.5
	Tu 5	3:00	9:23	15:25	21:45		F 5	—0.2	9.5	0.4	8.6		M 6	4:43	11:12	17:20	23:28
	W 6	—0.8	10.0	—0.5	9.7		S 6	5:05	11:38	17:42	23:45		Th 7	0.5	9.0	0.9	8.1
	Th 7	8:47	10:12	16:15	22:35		M 8	0.3	9.0	0.9	8.6		F 10	5:33	12:05	18:15	23:57
	F 8	—0.6	9.8	—0.1	9.8		Tu 9	0:02	6:00	12:33	18:45		S 11	1.0	8.5	1.3	7.6
	S 9	4:35	11:05	17:05	23:28		W 10	1:05	7:05	13:35	19:55		M 13	0:36	6:28	13:00	19:15
	M 11	5:28	12:00	18:00	24:00		Th 11	7.7	1.4	8.1	1.6		Th 16	7.7	1.5	8.1	1.6
	Tu 12	0.3	9.0	0.8	8.8		F 12	2:10	8:15	14:36	21:05		W 15	1:36	7:30	13:57	20:15
	W 13	8.2	0.8	8.5	1.4		S 13	7.4	1.8	7.8	1.7		F 18	7.4	1.8	7.8	1.6
E A	Th 14	0:25	6:25	13:00	19:08	E A	M 15	2:10	8:15	14:36	21:05	E A	S 12	2:35	8:33	14:52	21:10
	F 15	8.2	0.8	8.5	1.4		Tu 16	7.4	1.8	7.8	1.7		Th 17	7.3	2.1	7.6	1.4
	S 16	1:30	7:33	14:02	20:20		W 17	8:15	9:25	15:36	22:05		M 20	3:32	9:32	15:43	22:02
	M 18	7.8	1.3	8.1	1.7		Th 18	7.4	1.9	7.8	1.6		Th 23	7.3	2.2	7.5	1.8
	Tu 19	2:38	8:45	15:08	21:35		F 19	4:15	10:27	16:30	22:57		F 24	4:22	10:25	16:33	22:46
	W 20	7.5	1.6	7.9	1.7		S 20	7.5	1.8	7.8	1.5		S 26	7.4	2.2	7.5	1.6
	Th 21	3:45	9:57	16:10	22:40		M 22	5:05	11:18	17:17	23:38		M 27	5:07	11:08	17:16	23:24
	F 22	7.5	1.6	7.9	1.5		Th 23	7.7	1.7	7.9	1.3		Th 30	7.6	2.1	7.6	1.4
	S 23	4:45	11:00	17:05	23:32		F 24	5:40	12:00	18:00	24:00		F 31	5:48	11:45	17:57	23:57
	M 25	7.7	1.5	8.1	1.3		S 25	7.9	1.6	8.0	1.4		S 3	7.8	1.9	7.7	1.4
	Tu 26	5:37	11:50	17:54	24:00		M 27	0:13	6:27	12:30	18:36		Th 6	0:00	6:27	12:22	18:38
	W 27	0:15	6:20	12:32	18:35		Th 28	1.2	8.1	1.6	8.0		W 9	1.2	8.1	1.7	7.5
S D	Th 28	1.2	8.0	1.2	8.3	S D	F 29	0:40	7:02	13:00	19:13	S D	M 13	0:35	7:07	13:00	19:15
	F 29	0:52	7:02	13:07	19:12		S 30	1.0	8.3	1.4	8.1		Th 16	0.9	8.4	1.4	8.0
	S 30	1.0	8.2	1.2	8.3		M 31	1:10	7:37	13:30	19:48		W 19	1:12	7:46	13:38	20:00
	M 31	1.20	7:35	13:35	19:45		Th 1	0.8	8.5	1.2	8.1		Th 22	0.6	8.7	1.1	8.1
	Tu 1	0.9	8.3	1.1	8.3		F 2	1:40	8:12	14:00	20:23		F 25	1:51	8:27	14:18	20:41
	W 2	1:45	8:08	14:00	20:20		S 3	0.6	8.6	1.0	8.1		S 28	0.4	8.8	0.8	8.1
	Th 3	0.8	8.5	1.1	8.3		M 4	2:15	8:48	14:37	21:00		Th 31	2:35	9:10	15:02	21:26
	F 4	2:12	8:40	14:30	20:52		Tu 5	0.5	8.7	0.9	8.0		W 3	0.3	8.9	0.7	8.1
	S 5	0.7	8.5	1.0	8.2		W 6	2:51	9:28	15:17	21:42		F 6	3:17	9:55	15:50	22:15
	M 6	2:45	9:16	15:00	21:27		Th 7	0.4	8.7	0.7	7.9		S 9	0.3	8.9	0.6	8.1
	Tu 7	0.6	8.5	0.9	8.0		F 8	3:32	10:12	16:00	22:28		M 12	4:03	10:42	16:38	23:05
	W 8	3:17	9:53	15:37	22:05		S 9	0.5	8.6	0.8	7.8		Th 15	0.4	8.8	0.6	8.0
E A	Th 9	0.6	8.5	0.9	7.9	E A	M 10	4:17	10:58	16:50	23:18	E A	S 18	4:52	11:33	17:31	23:57
	F 10	3:55	10:33	16:18	22:48		Th 11	0.6	8.4	0.9	7.6		Th 21	0.6	8.6	0.7	7.8
	S 11	0.6	8.3	0.9	7.7		F 12	5:05	11:50	17:42	23:45		M 24	0:01	5:46	12:27	18:26
	M 12	4:37	11:20	17:05	23:35		S 13	0.8	8.2	1.1	8.0		Th 27	8.0	0.8	8.4	0.5
	Tu 13	0.8	8.1	1.1	7.5		M 14	0:17	6:00	12:46	18:42		W 30	1:00	6:43	13:25	19:26
	W 14	5:25	12:10	17:56	24:00		Th 15	7.5	1.0	8.0	1.2		F 3	7.9	1.0	8.3	0.9
	Th 15	1.0	7.9	1.3	8.1		F 16	1:18	7:00	13:47	19:47		M 6	2:00	7:46	14:24	20:25
	F 16	0:32	6:20	13:05	18:56		S 17	7.5	1.2	8.0	1.2		Th 9	8.0	1.2	8.3	0.8
	S 17	7.3	1.2	7.8	1.5		M 18	2:24	8:07	14:50	20:54		F 12	3:03	8:54	15:24	21:32
	M 18	1:35	7:20	14:10	20:05		Th 19	7.7	1.4	8.1	1.0		S 15	8.1	1.3	8.3	0.7
	Tu 19	7.2	1.4	7.8	1.5		F 20	3:32	9:17	15:50	21:56		Th 18	4:03	10:00	16:22	22:32
	W 20	2:45	8:30	15:15	21:15		S 21	8.0	1.2	8.4	0.7		W 21	8.4	1.2	8.5	0.5
	Th 21	7.4	1.4	8.0	1.3		M 22	4:20	10:24	16:47	22:55		F 24	5:00	11:05	17:18	23:25
S D	F 22	3:50	9:42	16:15	22:20	S D	Th 23	8.5	1.0	8.7	0.2	S D	S 25	8.7	1.0	8.7	0.2
	S 23	7.8	1.2	8.3	0.8		F 24	5:21	11:22	17:41	23:48		Th 28	5:54	12:02	18:13	24:00
	M 24	0.8	8.5	0.9	8.0		S 25	8.9	0.6	9.0	—0.1		W 31	9.1	0.7	8.8	0.4
	Tu 25	4:50	10:47	17:12	23:20		M 26	6:13	12:17	18:32	24:45		F 3	0:22	6:46	12:55	19:05
	W 26	8.3	0.8	8.8	0.8		Th 27	9.4	0.3	9.3	0.1		Th 6	0.0	9.4	0.5	9.0
	Th 27	5:43	11:43	18:06	24:00		F 28	0:38	7:03	13:08	19:22		M 9	1:12	7:36	13:46	19:56
	F 28	9.0	0.3	9.3	0.1		S 29	—0.4	9.7	0.0	9.4		Th 12	—0.2	9.6	0.4	9.0
	S 29	0:10	7:35	13:36	19:35		M 30	1:27	7:52	13:58	20:12		W 15	2:00	8:25	14:35	20:45
	M 30	—0.2	9.5	—0.1	9.6		Th 31	—0.6	9.9	0.0	9.4		F 18	—0.2	9.6	0.3	8.9
	Tu 31	1:00	7:23	13:25	19:43		F 1	2:14	8:42	14:47	21:01		S 21	2:47	9:13	15:22	21:34
	W 1	—0.6	9.9	—0.3	9.8		S 2	—0.6	9.9	0.0	9.2		Th 24	0.0	9.6	0.4	8.7
	Th 2	1:47	8:12	14:15	20:32		M 3	—0.8	10.1	—0.4	9.8		F 27	3:33	10:00	16:07	22:23
	F 3	—0.8	10.1	—0.4	9.8		Tu 4	—0.8	10.1	—0.4	9.8		S 30	0.2	9.3	0.6	8.4

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 4.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is New Zealand Standard for the meridian 182° 30' E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	8:55 3.7	10:10 0.6	16:22 3.5	22:32 0.5	M	M	1	5:16 4.0	12:08 0.6	18:26 3.0	23:51 0.7	M	M	1	3:47 3.8	10:45 0.8	17:19 2.8	22:34 1.0												
	S	2	4:50 3.8	11:16 0.5	17:27 3.5	23:24 0.5		N	Tu	2	6:07 4.2	13:04 0.5	19:20 3.0		N	Tu	2	4:49 3.9	11:53 0.7	18:26 2.9	23:31 0.9											
	S	3	5:40 4.1	12:15 0.4	18:26 3.4			W	3	6:36 0.7	6:54 4.4	13:50 0.4	20:04 3.0		W	3	5:44 4.0	12:46 0.6	19:13 3.0													
	M	4	0:11 0.4	6:26 4.4	13:09 0.8	19:20 3.3		Th	4	1:20 0.6	7:38 4.5	14:31 0.4	20:39 3.1		Th	4	0:21 0.8	6:34 4.1	13:26 0.5	19:47 3.1												
	Tu	5	0:54 0.5	7:11 4.6	13:56 0.2	20:09 3.2		C	F	5	1:59 0.6	8:17 4.5	15:00 0.3		21:10 3.1	F	5	1:06 0.7	7:16 4.2	13:59 0.4	20:14 3.2											
	W	6	1:34 0.5	7:54 4.7	14:40 0.2	20:51 3.1		S	6	2:35 0.6	8:55 4.5	15:31 0.2	21:37 3.2		S	6	1:45 0.6	7:55 4.3	14:29 0.3	20:39 3.3												
	Th	7	2:11 0.6	8:35 4.7	15:20 0.2	21:29 3.0		S	7	3:10 0.6	9:31 4.4	16:03 0.2	22:06 3.2		A	S	7	2:20 0.5	8:30 4.2	14:56 0.2	21:04 3.5											
	F	8	2:48 0.7	9:15 4.6	15:59 0.2	22:04 3.0		A	M	8	3:43 0.7	10:57 4.2	16:36 0.2		22:38 3.3	M	8	2:51 0.5	9:06 4.2	15:24 0.1	21:32 3.6											
	S	9	3:24 0.8	9:55 4.5	16:36 0.2	22:36 2.9		Tu	9	4:18 0.8	10:44 4.0	17:09 0.2	23:16 3.4		E	Tu	9	3:25 0.5	9:41 4.1	15:54 0.2	22:01 3.7											
	A	S	10	3:56 1.0	10:34 4.3	17:14 0.3		23:16 3.0	E	W	10	4:58 0.8	11:21 3.8		17:43 0.4	23:49 3.5	W	10	4:01 0.5	10:16 3.9	16:29 0.3	22:39 3.8										
M		11	4:35 1.1	11:14 4.0	17:51 0.3	23:58 3.0	Th	11	5:49 0.8	12:04 3.6	18:18 0.6		Th	11	4:44 0.4	10:55 3.8	17:06 0.4	23:18 3.8														
Tu		12	5:16 1.2	11:56 3.8	18:33 0.4		F	12	6:34 3.5	6:39 0.8	12:51 3.4	19:05 0.8	F	12	5:27 0.4	11:35 3.6	17:40 0.6	23:57 3.7														
W		13	6:09 3.1	6:10 1.2	12:42 3.5	19:11 0.5	C	S	13	1:24 3.5	7:37 0.8	13:44 3.2	19:56 0.9	S	13	6:15 0.5	12:18 3.4	18:16 0.8														
Th		14	1:25 3.2	7:15 1.2	13:32 3.8	19:56 1.2	S	14	2:26 3.5	8:50 0.8	14:50 3.0	20:55 1.0	S	14	6:49 3.7	7:19 0.6	18:12 3.1	19:03 1.1														
F		15	2:19 3.8	8:24 1.1	14:26 3.2	20:49 0.7	M	15	3:31 3.7	10:05 0.7	16:10 3.0	21:59 1.0	C	M	15	1:50 3.7	8:29 0.6	14:25 2.9	20:09 1.2													
S		16	3:15 3.5	9:26 1.0	15:31 3.1	21:44 0.7	Tu	16	4:34 4.0	11:13 0.5	17:21 3.0	23:02 0.8	S	Tu	16	2:58 3.8	9:43 0.5	15:55 2.8	21:29 1.1													
S		17	4:11 3.7	10:34 0.8	16:37 3.2	22:39 0.7	W	17	5:33 4.3	12:14 0.2	18:25 3.2		W	17	4:08 4.0	10:50 0.4	17:11 3.0	22:45 0.9														
M		18	5:06 4.0	11:36 0.8	17:40 3.2	23:30 0.6	Th	18	6:08 0.6	6:29 4.7	13:09 -0.1	19:20 3.4	Th	18	5:10 4.3	11:51 0.1	18:11 3.3	23:50 0.6														
P		Tu	19	6:59 4.8	12:33 0.2	18:37 3.3		F	19	6:58 0.3	7:21 5.0	13:59 -0.4	20:36 3.6	F	19	6:08 4.6	12:46 -0.1	19:00 3.6														
	W	20	6:51 0.5	6:50 4.7	13:26 -0.1	19:30 3.4	S	20	1:49 0.1	8:10 5.1	14:44 -0.5	20:51 3.8	S	20	6:46 0.2	7:01 4.8	13:32 -0.4	19:45 3.9														
	Th	21	1:10 0.4	7:39 5.0	14:16 -0.3	20:21 3.4	P	S	21	2:39 0.0	8:59 5.2	15:29 -0.5	21:36 3.9	P	S	21	1:36 -0.1	7:52 5.0	14:16 -0.4	20:28 4.2												
	F	22	1:59 0.8	8:27 5.1	15:04 -0.5	21:07 3.5	M	22	3:26 -0.1	9:47 5.1	16:12 -0.4	22:20 4.0	M	22	2:28 -0.3	8:40 4.9	15:00 -0.4	21:10 4.3														
	S	23	2:46 0.8	9:15 5.2	15:51 -0.5	21:57 3.5	E	Tu	23	4:16 -0.1	10:35 4.8	16:56 -0.3	23:06 4.0	E	Tu	23	3:14 -0.4	9:27 4.8	15:41 -0.3	21:58 4.4												
	S	24	3:35 0.3	10:04 5.1	16:40 -0.4	22:46 3.6	W	24	5:09 0.0	11:25 4.4	17:41 0.0	23:53 4.0	W	24	4:02 -0.4	10:17 4.6	16:28 -0.1	22:39 4.3														
	M	25	4:27 0.8	10:54 4.9	17:27 -0.3	23:36 3.6	Th	25	6:05 0.2	12:19 4.0	18:30 0.3		Th	25	4:50 -0.2	11:04 4.2	17:10 0.2	23:23 4.2														
	Tu	26	5:21 0.4	11:45 4.6	18:19 -0.1		F	26	6:44 3.9	6:59 0.3	13:13 3.6	19:25 0.7	F	26	5:41 -0.1	11:58 3.7	17:54 0.6															
	W	27	6:30 3.6	6:21 0.5	12:40 4.2	19:06 0.2	D	S	27	1:39 3.7	8:08 0.6	14:27 3.2	20:25 0.9	S	27	0:11 4.1	6:40 0.2	13:00 3.2	18:45 0.9													
	D	Th	28	1:21 3.6	7:28 0.6	13:41 3.7	19:58 0.4	S	28	2:43 3.7	9:25 0.8	15:55 2.9	21:30 1.0	S	28	1:05 3.9	7:48 0.5	14:15 2.9	19:45 1.2													
F		29	2:16 3.7	8:30 0.6	14:43 3.5	20:55 0.7							M	29	2:06 3.8	9:00 0.7	15:49 2.7	20:56 1.3														
S		30	3:19 3.6	9:45 0.7	16:05 3.2	22:01 0.8							Tu	30	3:14 3.7	10:19 0.8	17:10 2.7	22:09 1.2														
	S	31	4:20 3.8	11:01 0.7	17:20 3.1	22:58 0.8							W	31	4:17 3.7	11:20 0.8	18:05 2.9	23:11 1.1														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.							W.		Mo.							W.	Mo.													
A	Th	1	5:16	12:09	18:42	3.1				A	S	1	5:30	11:56	18:22	3.6				Tu	1	0:20	6:19	12:23	18:40	0.7	3.4	0.4	4.0			
	F	2	0:04	6:06	12:46	19:11	0.9	8.9	0.5	3.3		S	2	0:19	6:19	12:30	18:46	0.9	8.7	0.5	3.6	W	2	1:00	7:00	12:58	19:19	0.4	3.5	0.4	4.3	
	S	3	0:48	6:49	13:19	19:36	0.8	8.9	0.4	3.4	E	M	3	0:56	6:59	13:10	19:21	0.6	3.7	0.4	3.8	Th	3	1:41	7:41	13:31	19:56	0.2	3.5	0.5	4.5	
	S	4	1:26	7:30	13:47	20:01	0.6	4.0	0.3	3.6		Tu	4	1:34	7:35	13:40	19:53	0.4	3.8	0.3	4.0	○	F	4	2:26	8:24	14:06	20:36	0.0	3.4	0.5	4.6
	M	5	1:59	8:09	14:20	20:30	0.5	4.0	0.2	3.8	○	W	5	2:05	8:12	14:09	20:25	0.2	3.7	0.3	4.2	S	5	3:13	9:09	14:41	21:22	-0.1	3.3	0.6	4.6	
E	Tu	6	2:31	8:41	14:50	21:00	0.4	3.9	0.3	3.9		Th	6	2:43	8:47	14:39	21:01	0.1	3.7	0.4	4.3	S	6	4:00	9:58	15:20	22:10	-0.2	3.2	0.8	4.6	
	W	7	3:09	9:16	15:20	21:31	0.3	3.9	0.2	4.0		F	7	3:26	9:28	15:08	21:40	0.0	3.5	0.5	4.4	M	7	4:51	10:49	16:04	23:00	-0.2	3.1	0.9	4.5	
	Th	8	3:43	9:51	15:50	22:05	0.2	3.8	0.4	4.0		S	8	4:11	10:09	15:40	22:24	-0.1	3.4	0.7	4.3	Tu	8	5:45	11:44	16:57	23:35	-0.1	3.0	1.1	4.4	
	F	9	4:22	10:26	16:20	22:45	0.1	3.6	0.5	4.0		S	9	5:03	10:56	16:16	23:11	0.0	3.2	0.9	4.2	W	9	6:40	12:51	18:04	24:00	0.0	3.0	1.1	4.4	
	S	10	5:10	11:08	16:53	23:30	0.2	3.4	0.8	4.0	S	M	10	5:56	11:50	17:01	23:59	0.0	3.0	1.1	4.4	Th	10	8:24	14:41	19:19	24:45	0.0	2.8	1.3	4.4	
C	S	11	6:05	11:58	17:31	24:22	0.2	3.2	1.0	4.0		Tu	11	6:56	12:56	18:02	24:58	0.0	2.8	1.3	4.4	○	F	11	1:51	8:35	15:01	20:41	4.1	0.2	8.2	10.1
	M	12	7:04	12:58	18:22	25:22	0.3	2.9	1.2	4.0		W	12	1:06	7:58	14:16	19:29	4.1	0.2	2.8	1.3	S	12	2:55	9:31	15:56	21:55	4.0	0.2	3.5	0.7	
	Tu	13	1:23	8:13	14:20	19:37	3.9	0.4	2.8	1.3	○	Th	13	2:11	9:01	15:31	20:56	4.0	0.2	3.0	1.1	E	S	13	4:04	10:24	16:44	22:59	3.8	0.3	3.8	0.4
	W	14	2:33	9:23	15:49	21:09	3.9	0.4	2.8	1.2		F	14	3:19	10:01	16:31	22:14	5:08	0.2	3.3	0.8	M	14	5:08	11:19	17:35	23:54	3.8	0.3	4.0	0.2	
	Th	15	3:41	10:29	16:56	22:29	4.0	0.3	3.1	0.9	E	S	15	4:24	10:56	17:19	23:19	4.1	0.1	3.6	0.5	Tu	15	6:06	12:06	18:21	24:39	3.8	0.2	4.3	0.1	
P	F	16	4:46	11:26	17:50	23:35	4.2	0.1	3.4	0.5	P	M	16	5:26	11:50	18:01	24:00	4.1	0.0	4.0	0.0	W	16	7:09	13:00	19:15	25:30	0.1	3.7	0.2	4.6	
	S	17	5:47	12:18	18:36	24:22	4.4	-0.1	3.8	0.0		Tu	17	6:25	12:38	18:49	24:58	0.15	6:25	12:38	18:49	Th	17	8:01	14:01	20:16	26:31	-0.1	3.5	0.3	4.3	
	S	18	6:51	13:09	19:18	25:09	0.1	4.5	-0.3	4.2	●	W	18	7:31	13:21	19:30	25:58	1:01	7:31	13:21	19:30	●	F	18	9:01	15:01	21:16	27:31	-0.1	3.3	0.4	4.9
	M	19	7:52	14:00	20:09	26:00	-0.2	4.6	-0.3	4.5		Th	19	8:06	14:01	20:14	26:14	1:51	8:06	14:01	20:14	N	S	19	9:30	15:30	21:45	27:51	-0.1	3.2	0.5	4.9
	Tu	20	8:23	14:33	20:44	26:44	-0.4	4.6	-0.3	4.6		F	20	8:54	14:41	20:56	26:56	2:41	8:54	14:41	20:56	S	20	10:16	16:16	22:31	28:06	0.0	3.0	0.7	4.6	
N	W	21	9:10	15:13	21:26	-0.5	4.4	-0.1	4.7		S	21	9:48	15:20	21:41	27:41	3:30	9:48	15:20	21:41	M	21	10:59	16:16	22:50	28:50	0.1	2.9	0.9	4.4		
	Th	22	10:00	16:00	22:06	-0.6	4.1	0.2	4.6		S	22	10:31	16:00	22:29	28:29	4:20	10:31	16:00	22:29	Tu	22	11:50	16:59	23:36	29:36	0.2	2.8	1.1	4.2		
	F	23	10:49	16:31	22:50	-0.8	3.7	0.5	4.5	N	S	23	11:25	16:41	23:16	29:16	5:10	11:25	16:41	23:16	W	23	12:41	17:49	24:36	30:36	0.4	2.8	1.3	4.4		
	S	24	11:41	17:15	23:41	-0.1	3.8	0.8	4.3		M	24	12:23	17:29	23:59	30:59	6:08	12:23	17:29	23:59	Th	24	1:07	18:33	25:36	31:36	3.9	0.5	2.8	1.4		
	S	25	12:44	18:08	24:36	0.2	2.9	1.1	4.0		Tu	25	1:06	17:30	18:25	24:25	6:57	1:06	17:30	18:25	A	F	25	2:06	19:01	26:04	32:04	1:11	7:52	14:19	19:50	
D	M	26	1:00	18:08	24:36	0.2	2.9	1.1	4.0		W	26	1:06	17:30	18:25	24:25	7:58	1:06	17:30	18:25	○	S	26	3:06	20:01	27:04	33:04	3.6	0.5	2.9	1.4	
	Tu	27	1:34	18:31	25:09	0.8	0.7	2.6	1.4	○	Th	27	1:54	18:45	19:38	25:38	8:54	1:54	18:45	19:38	S	27	4:01	21:01	28:04	34:04	3.2	0.7	3.3	1.1		
	W	28	2:26	19:36	26:06	0.7	0.8	2.7	1.3		F	28	2:51	19:36	20:29	26:29	9:36	2:51	19:36	20:29	M	28	5:09	22:09	29:12	35:12	3.1	0.7	3.6	1.0		
	Th	29	3:39	20:34	27:22	0.6	0.7	2.9	1.2	A	S	29	3:54	20:21	21:14	27:14	10:21	3:54	20:21	21:14	T	29	6:06	23:06	30:09	36:09	3.2	0.6	3.8	0.7		
	F	30	4:36	21:18	27:57	0.6	0.6	3.1	1.0	E	S	30	4:49	21:02	21:55	28:55	11:02	4:49	21:02	21:55	W	30	7:11	24:11	31:14	37:14	3.4	0.6	4.1	0.8		
										M	31	5:25	21:44	18:01	29:01	11:44	5:25	21:44	18:01													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.) all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon: for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
u	Th	1	0:34	6:31	12:21	18:50				S	1	1:52	7:55	13:34	20:05	P	W	1	3:00	9:10	15:06	21:20							
			0.4	3.2	0.5	4.4						—0.2	3.3	0.4	5.0				—0.5	4.0	—0.2	5.0							
	F	2	1:25	7:20	13:04	19:36	O	M	2	2:40	8:42	14:22	20:52	E	Th	2	3:45	9:54	15:55	22:10									
			0.2	3.3	0.5	4.7				—0.3	3.4	0.3	5.1				—0.4	4.1	—0.2	4.8									
	S	3	2:10	8:06	13:45	20:22			Tu	3	3:28	9:28	15:12	21:40		F	3	4:30	10:38	16:45	22:58								
P			—0.1	3.3	0.5	4.8	P	W	4	4:14	10:17	16:02	22:30			S	4	5:12	11:25	17:36	23:52								
	S	4	3:00	8:55	14:28	21:10				—0.4	3.6	0.2	4.9				0.0	4.1	0.1	4.1									
			—0.2	3.2	0.5	4.9			Th	5	5:00	11:08	16:56	23:20			S	5	6:02	12:15	18:30								
	M	5	3:48	9:42	15:14	21:57				—0.3	3.6	0.3	4.6				0.2	3.9	0.2										
			—0.3	3.2	0.6	4.9	E	F	6	5:47	12:00	17:53				M	6	0:50	6:57	13:12	19:40								
E	Tu	6	4:37	10:35	16:05	22:48				—0.1	3.7	0.4					3.7	0.6	3.9	0.4									
			—0.3	3.2	0.7	4.8			S	7	0:12	6:36	12:50	18:57	C	Tu	7	2:00	7:55	14:15	20:55								
	W	7	5:28	11:32	17:00	23:40				4.3	0.1	3.7	0.5				3.2	0.9	3.8	0.6									
			—0.2	3.2	0.7	4.6	C	S	8	1:10	7:27	13:44	19:55		W	8	3:26	9:00	15:20	22:14									
	Th	8	6:17	12:28	18:04					3.9	0.3	3.8	0.5				2.9	1.0	3.8	0.7									
C			—0.1	3.2	0.8			M	9	2:10	8:22	14:45	21:10	N	Th	9	4:50	10:09	16:24	23:24									
	F	9	0:35	7:10	13:28	19:12				3.6	0.6	3.7	0.6				2.9	1.0	3.9	0.7									
			4.3	0.0	3.3	0.8			Tu	10	3:30	9:30	15:48	22:25		F	10	6:00	11:09	17:22									
	S	10	1:32	8:02	14:20	20:24				3.3	0.8	3.8	0.6				2.9	0.9	4.1										
			4.1	0.2	3.5	0.8			W	11	4:46	10:29	16:46	23:36			S	11	0:24	6:49	12:05	18:15							
N			2:35	8:58	15:18	21:32	N			3.1	0.8	4.0	0.6				0.6	3.1	0.7	4.2									
	M	12	3:42	9:55	16:15	22:38		Th	12	5:58	11:25	17:40				S	12	1:10	7:26	12:50	19:00								
			3.6	0.5	3.8	0.5				3.0	0.7	4.2					0.4	3.2	0.6	4.3									
	Tu	13	4:50	10:52	17:10	23:45		F	13	0:38	6:58	12:15	18:33			M	13	1:40	7:56	13:30	19:40								
			3.5	0.5	4.1	0.4				0.5	3.0	0.6	4.4				0.3	3.3	0.5	4.3									
A	W	14	5:56	11:42	18:04			S	14	1:30	7:43	13:00	19:18			Tu	14	2:14	8:20	14:08	20:17								
			3.3	0.5	4.3					0.4	3.1	0.6	4.5				0.3	3.5	0.5	4.2									
	Th	15	0:45	6:54	12:30	18:50		S	15	2:10	8:20	13:45	20:02	●	W	15	2:40	8:50	14:40	20:52									
			0.3	3.2	0.5	4.6				0.4	3.1	0.5	4.5				0.2	3.6	0.4	4.1									
	F	16	1:35	7:49	13:15	19:35	●	M	16	2:45	8:54	14:24	20:40	E	Th	16	3:08	9:16	15:14	21:28									
●			0.2	3.2	0.5	4.7				0.2	3.2	0.5	4.5				0.2	3.7	0.4	4.0									
	S	17	2:22	8:30	14:00	20:20		Tu	17	3:17	9:25	15:00	21:18	A	F	17	3:40	9:47	15:52	22:02									
			0.2	3.1	0.5	4.8				0.2	3.3	0.5	4.4				0.3	3.8	0.4	3.8									
	S	18	3:08	9:17	14:58	21:03		W	18	3:50	9:56	15:35	21:54			S	18	4:10	10:22	16:30	22:40								
			0.2	3.1	0.6	4.7				0.2	3.3	0.6	4.2				0.4	3.8	0.4	3.7									
D	M	19	3:47	9:52	15:16	21:44		Th	19	4:20	10:26	16:10	22:32			S	19	4:42	10:55	17:08	23:10								
			0.2	3.0	0.7	4.6				0.2	3.4	0.7	4.0				0.5	3.7	0.5	3.5									
	Tu	20	4:25	10:30	15:55	22:25	A	F	20	4:52	11:00	16:50	23:10			M	20	5:14	11:35	18:00	23:55								
			0.2	3.0	0.8	4.4				0.3	3.4	0.7	3.7				0.7	3.7	0.5	3.2									
	W	21	5:02	11:07	16:35	23:05		S	21	5:25	11:34	17:37	23:50			Tu	21	5:48	12:25	18:58									
A			0.2	3.0	0.9	4.1				0.4	3.5	0.8	3.5				0.9	3.7	0.6										
	Th	22	5:40	11:48	17:18	23:45		S	22	6:04	12:16	18:22				W	22	0:47	6:30	13:25	20:04								
			0.3	3.1	1.0	3.9				0.7	3.5	0.8					3.0	1.1	3.7	0.7									
	F	23	6:20	12:28	18:05			M	23	0:34	6:46	13:05	19:18	D	Th	23	1:58	7:33	14:30	21:15									
			0.4	3.1	1.1					3.3	0.8	3.5	0.8				2.8	1.2	3.8	0.6									
E	S	24	0:30	6:57	13:10	19:02	D	Tu	24	1:22	7:30	14:00	20:26		S	F	24	3:26	8:52	15:40	22:25								
			3.6	0.5	3.2	1.1				3.1	1.0	3.5	0.8				2.8	1.2	3.9	0.4									
	S	25	1:18	7:38	14:00	20:03		W	25	2:25	8:24	15:05	21:40			S	25	4:45	10:15	16:42	23:24								
			3.3	0.7	3.3	1.1				3.0	1.1	3.6	0.8				2.9	1.0	4.2	0.2									
	M	26	2:06	8:26	14:58	21:02		Th	26	3:40	9:30	16:10	22:48			S	26	5:45	11:20	17:40									
D			3.1	0.8	3.4	1.0				2.9	1.0	4.9	0.6				3.2	0.7	4.4										
	Tu	27	3:06	9:19	15:47	22:10	S	F	27	4:55	10:34	17:08	23:47			M	27	0:18	6:33	12:20	18:35								
			3.1	0.8	3.6	0.9				2.9	0.9	4.2	0.3				—0.1	3.5	0.3	4.7									
	W	28	4:10	10:10	16:44	23:12		S	28	5:58	11:36	18:04				Tu	28	1:05	7:18	13:12	19:25								
			3.0	0.8	3.8	0.7				3.1	0.7	4.5					—0.4	3.9	0.0	4.9									
S	Th	29	5:12	11:04	17:36			S	29	0:44	6:52	12:34	18:55	C	W	29	1:50	8:00	14:00	20:14									
			3.0	0.8	4.2					0.0	3.3	0.4	4.8				—0.4	4.2	—0.3	4.9									
	F	30	0:10	6:10	11:54	18:27		M	30	1:32	7:40	13:25	19:45	P	Th	30	2:32	8:40	14:50	21:00									
			0.4	8.1	0.6	4.5				—0.2	3.6	0.2	5.0				—0.4	4.4	—0.4	4.8									
	S	31	1:05	7:04	12:45	19:16	O	Tu	31	2:20	8:24	14:15	20:35	E															
		0.1	3.2	0.5	4.8				—0.4	3.8	0.0	5.1																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th Meridian E. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	3:15 -0.4	9:26 4.5	15:36 -0.4	21:50 4.6				M	1	4:08 0.4	10:30 4.7	17:05 -0.2	23:17 3.3				W	1	4:22 0.8	10:55 4.6	17:42 0.1	23:56 2.9								
	S	2	4:00 -0.2	10:10 4.4	16:24 -0.4	22:40 4.2				Tu	2	4:50 0.7	11:20 4.5	18:00 0.1					Th	2	5:10 1.0	11:48 4.3	18:38 0.3									
	S	3	4:42 -0.2	10:55 4.4	17:17 -0.2	23:34 3.7				W	3	0:20 3.0	5:40 1.0	12:12 4.2	19:05 0.8				F	3	1:05 2.7	6:08 1.2	12:40 4.0	19:34 0.5								
	M	4	5:26 0.6	11:44 4.2	18:16 0.1					Th	4	1:38 2.8	6:40 1.3	18:12 4.0	20:10 0.6				S	4	2:15 2.7	7:15 1.3	13:36 3.7	20:26 0.6								
	Tu	5	0:36 3.3	6:17 0.9	12:40 4.1	19:24 0.4				F	5	3:02 2.7	7:56 1.3	14:18 3.8	21:16 0.7				S	5	3:20 2.8	8:30 1.4	14:35 3.6	21:20 0.6								
	W	6	1:54 2.9	7:18 1.1	13:42 3.9	20:38 0.6				S	6	4:18 2.8	9:18 1.3	15:22 3.7	22:18 0.6				M	6	4:08 3.0	9:44 1.3	15:36 3.4	22:07 0.6								
	Th	7	3:25 2.8	8:32 1.2	14:50 3.8	21:55 0.7				S	7	5:07 3.0	10:30 1.1	16:22 3.6	23:05 0.6				Tu	7	4:40 3.2	10:44 1.2	16:36 3.3	22:50 0.7								
	F	8	4:47 2.8	9:48 1.1	15:55 3.8	23:00 0.7				M	8	5:42 3.2	11:24 1.0	17:15 3.6	23:45 0.5				W	8	5:15 3.5	11:32 1.0	17:25 3.3	23:30 0.6								
	S	9	5:45 2.9	10:54 1.0	16:56 3.8	23:48 0.6				Tu	9	6:10 3.4	12:10 0.8	18:06 3.6					Th	9	5:50 3.7	12:14 0.8	18:10 3.3									
	S	10	6:24 3.1	11:47 0.8	17:48 3.9					W	10	0:20 0.5	6:35 3.7	12:46 0.6	18:46 3.6				F	10	0:08 0.5	6:28 3.9	12:51 0.6	18:48 3.3								
	M	11	0:30 0.4	6:54 3.3	12:32 0.7	18:34 3.9				Th	11	0:54 0.4	7:05 3.8	13:20 0.5	19:22 3.7				S	11	0:44 0.5	7:04 4.2	13:30 0.3	19:30 3.4								
	Tu	12	1:00 0.3	7:20 3.5	13:15 0.6	19:16 3.9				F	12	1:25 0.4	7:35 4.1	13:54 0.3	19:55 3.6				S	12	1:15 0.5	7:42 4.4	14:14 0.1	20:06 3.3								
W	13	1:35 0.2	7:45 3.7	13:46 0.5	19:54 3.9				S	13	1:52 0.4	8:08 4.2	14:30 0.2	20:30 3.5				M	13	1:49 0.6	8:20 4.6	14:55 0.0	20:46 3.2									
Th	14	2:08 0.3	8:14 3.9	14:20 0.3	20:28 3.9				S	14	2:20 0.5	8:44 4.3	15:10 0.1	21:05 3.4				Tu	14	2:24 0.6	9:05 4.7	15:42 -0.1	21:32 3.2									
F	15	2:32 0.3	8:44 3.9	14:55 0.2	21:00 3.8				M	15	2:46 0.6	9:20 4.4	15:54 0.0	21:45 3.3				W	15	2:56 0.7	9:47 4.6	16:28 -0.2	22:15 3.1									
S	16	3:00 0.4	9:12 4.0	15:25 0.2	21:30 3.7				Tu	16	3:15 0.8	10:00 4.4	16:40 0.0	22:25 3.1				Th	16	3:36 0.9	10:35 4.6	17:18 -0.1	23:10 3.0									
S	17	3:24 0.5	9:45 4.1	16:06 0.2	22:05 3.5				W	17	3:45 0.9	10:48 4.3	17:32 0.1	23:20 3.0				F	17	4:25 1.0	11:25 4.4	18:10 0.0										
M	18	3:50 0.7	10:22 4.1	16:51 0.2	22:45 3.8				Th	18	4:27 1.1	11:37 4.1	18:28 0.2					S	18	0:07 3.0	5:24 1.1	12:20 4.3	19:05 0.1									
Tu	19	4:24 0.8	11:05 4.0	17:44 0.3	23:30 3.1				F	19	0:22 2.8	5:20 1.3	12:36 4.0	19:28 0.3				S	19	1:15 3.0	6:38 1.1	13:18 4.1	20:00 0.2									
W	20	5:00 1.0	11:55 3.9	18:40 0.4					S	20	1:35 2.8	6:38 1.3	13:40 4.0	20:30 0.3				M	20	2:20 3.1	7:56 1.0	14:20 3.9	20:55 0.2									
Th	21	0:28 2.9	5:44 1.2	12:55 3.8	19:45 0.4				S	21	2:55 2.9	8:14 1.2	14:48 4.0	21:30 0.2				Tu	21	3:20 3.4	9:18 0.8	15:28 3.8	21:50 0.3									
F	22	1:45 2.7	6:54 1.4	14:05 3.8	20:55 0.4				M	22	3:57 3.2	9:40 1.0	15:54 4.0	22:26 0.1				W	22	4:12 3.7	10:25 0.6	16:37 3.7	22:49 0.3									
S	23	3:18 2.8	8:30 1.3	15:12 3.9	22:00 0.3				Tu	23	4:48 3.6	10:48 0.6	16:56 4.0	23:16 0.1				Th	23	5:05 4.0	11:26 0.3	17:40 3.7	23:40 0.2									
S	24	4:28 3.0	9:58 1.0	16:17 4.1	22:58 0.1				W	24	5:34 4.0	11:48 0.2	17:57 4.1					F	24	5:56 4.3	12:25 0.1	18:37 3.6										
M	25	5:22 3.4	11:06 0.6	17:17 4.3	23:50 -0.1				Th	25	0:09 0.0	6:20 4.2	12:38 -0.1	18:50 4.2				S	25	0:30 0.2	6:45 4.6	13:18 -0.1	19:30 3.5									
Tu	26	6:09 3.8	12:05 0.2	18:14 4.4					F	26	0:54 0.0	7:05 4.6	13:30 -0.3	19:40 4.0				S	26	1:14 0.2	7:32 4.9	14:12 -0.2	20:20 3.4									
W	27	0:35 -0.3	6:50 4.2	12:56 -0.1	19:08 4.5				S	27	1:36 0.0	7:50 4.9	14:18 -0.4	20:28 3.9				M	27	1:58 0.2	8:18 5.0	15:00 -0.2	21:08 3.3									
Th	28	1:20 -0.3	7:32 4.5	13:46 -0.3	19:56 4.5				S	28	2:18 0.1	8:35 5.0	15:08 -0.4	21:15 3.6				Tu	28	2:38 0.4	9:02 5.0	15:46 -0.1	21:56 3.2									
F	29	2:05 -0.3	8:15 4.7	14:30 -0.5	20:45 4.4				M	29	2:58 0.3	9:20 5.0	16:00 -0.3	22:08 3.4				W	29	3:20 0.5	9:50 4.9	16:32 0.0	22:42 3.1									
S	30	2:45 -0.1	8:58 4.8	15:19 -0.6	21:34 4.1				Tu	30	3:40 0.5	10:07 4.8	16:50 -0.1	23:00 3.1				Th	30	4:00 0.7	10:34 4.7	17:18 0.1	23:28 3.0									
S	31	3:26 0.1	9:42 4.8	16:10 -0.4	22:24 3.7												F	31	4:46 0.9	11:20 4.4	18:04 0.3											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3.47 p.m.
 ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	3:35 0.3	9:47 1.9	16:20 0.1	22:34 1.7	N	M	1	5:13 0.7	10:34 1.7	17:32 -0.1	N	M	1	3:52 0.6	9:14 1.7	16:02 -0.1	22:41 1.7													
	S	2	4:41 0.4	10:30 1.8	17:12 0.1	23:35 1.7		Tu	2	6:16 1.7	6:12 0.8	11:20 1.6		18:25 -0.1	Tu	2	4:47 0.8	10:00 1.6	16:57 0.0	23:39 1.7												
	S	3	5:41 0.6	11:13 1.7	18:05 0.0			W	3	1:18 1.7	7:12 0.9	12:10 1.6		19:17 -0.1	W	3	5:44 0.8	10:51 1.5	17:52 0.0													
	M	4	0:48 1.7	6:42 0.7	11:58 1.7	18:56 -0.1		Th	4	2:13 1.7	8:10 0.9	13:04 1.6		20:09 -0.1	Th	4	0:40 1.7	6:46 0.9	11:47 1.5	18:47 0.1												
	Tu	5	1:48 1.8	7:40 0.8	12:44 1.7	19:46 -0.2		○ F	5	3:03 1.8	9:03 0.9	14:00 1.5		20:58 -0.1	F	5	1:38 1.7	7:45 0.8	12:47 1.5	19:42 0.1												
	W	6	2:40 1.8	8:35 0.9	13:35 1.6	20:35 -0.2		S	6	3:45 1.8	9:51 0.8	14:55 1.5		21:45 -0.1	S	6	2:21 1.7	8:32 0.7	13:47 1.5	20:33 0.1												
	Th	7	3:30 1.9	9:28 0.9	14:20 1.6	21:21 -0.3		S	7	4:22 1.9	10:36 0.6	15:38 1.5		22:23 -0.1	○ A S	7	3:03 1.7	9:24 0.6	14:44 1.5	21:22 0.1												
	F	8	4:15 1.9	10:15 0.8	15:11 1.6	22:05 -0.3		A M	8	4:59 1.9	11:20 0.5	16:39 1.6		23:09 0.0	M	8	3:42 1.5	10:01 0.5	15:38 1.6	22:07 0.1												
	S	9	4:58 2.0	11:00 0.7	16:01 1.6	22:48 -0.2		Tu	9	5:34 2.0	11:56 0.4	17:28 1.6		23:52 0.0	E Tu	9	4:25 1.9	10:40 0.4	16:29 1.6	22:50 0.2												
	S	10	5:31 2.0	11:47 0.7	16:51 1.6	23:31 -0.2		E W	10	6:09 2.0	12:33 0.3	18:20 1.6			W	10	6:02 1.9	11:18 0.2	17:18 1.7	23:33 0.2												
	M	11	6:08 2.0	12:31 0.6	17:42 1.5			Th	11	6:33 0.1	13:00 2.0	18:13 0.2		19:12 1.7	Th	11	5:38 1.9	11:57 1.1	18:06 1.8													
A	Tu	12	0:12 -0.1	6:46 2.0	13:11 0.5	18:34 1.5	A	F	12	1:21 0.2	7:32 1.9	13:57 0.1	20:03 1.7	A	F	12	0:18 0.2	6:14 1.9	12:36 0.1	18:51 1.9												
W	13	0:54 0.0	7:24 2.0	13:53 0.4	19:28 1.5	○ S		13	2:12 0.3	8:08 1.9	14:38 0.1	20:55 1.7	S		13	1:02 0.3	6:52 1.8	13:17 0.0	19:36 1.9													
Th	14	1:39 0.2	8:00 2.0	14:37 0.3	20:23 1.5	S		14	3:03 0.4	8:48 1.8	15:26 0.0	21:48 1.7	S		14	1:48 0.4	7:30 1.8	14:01 -0.1	20:27 1.9													
○ F	15	2:20 0.3	8:47 1.9	15:23 0.2	21:22 1.5	M		15	3:54 0.6	9:32 1.7	16:14 -0.1	22:46 1.8	○ M		15	2:38 0.5	8:12 1.7	14:47 -0.1	21:21 1.9													
S	16	3:25 0.4	9:28 1.9	16:07 0.1	22:23 1.6	Tu		16	4:52 0.7	10:18 1.7	17:07 -0.1	23:48 1.8	S Tu		16	3:31 0.6	8:59 1.7	15:37 1.0	22:18 1.9													
S	17	4:19 0.5	10:10 1.8	16:57 0.1	23:20 1.6	S W		17	5:54 0.8	11:10 1.6	18:04 -0.2		W		17	4:32 0.7	9:48 1.6	16:33 -0.1	23:18 1.9													
M	18	5:20 0.6	10:55 1.7	17:44 0.0		Th		18	6:50 1.9	11:58 0.8	18:58 1.6	19:03 -0.2	Th		18	5:33 0.7	10:47 1.6	17:33 -0.1														
Tu	19	0:18 1.7	6:21 0.7	11:43 1.7	18:37 -0.2	F		19	1:50 1.9	8:00 0.8	13:09 1.6	20:01 -0.3	F		19	0:18 1.9	6:36 1.7	11:51 1.6	18:38 -0.1													
W	20	1:21 1.8	7:24 0.8	12:34 1.6	19:30 -0.3	● S		20	2:47 2.0	8:56 0.7	14:12 1.7	20:59 -0.3	S		20	1:16 1.9	7:35 1.6	12:58 1.6	19:41 -0.1													
s Th	21	2:19 2.0	8:25 0.8	13:28 1.6	20:23 -0.4	P S		21	3:36 2.0	9:49 0.6	15:13 1.8	21:53 -0.3	P S		21	2:11 1.9	8:29 0.5	14:06 1.7	20:40 -0.1													
● F	22	3:15 2.1	9:22 0.7	14:25 1.7	21:16 -0.4	M		22	4:23 2.1	10:38 0.4	16:12 1.8	22:46 -0.2	● M		22	3:02 1.9	9:17 0.4	15:08 1.8	21:38 0.0													
P S	23	4:06 2.1	10:13 0.7	15:22 1.7	22:08 -0.4	E Tu	23	5:07 2.1	11:22 0.2	17:09 1.9	23:38 -0.1	Tu	23	3:53 1.9	10:06 0.2	16:07 1.9	22:32 0.0															
S	24	4:52 2.2	11:04 0.6	16:18 1.7	23:00 -0.4	W	24	5:51 2.0	12:05 0.1	18:04 1.9		W	24	4:36 1.9	10:48 0.1	17:00 2.0	23:22 0.1															
M	25	5:37 2.2	11:53 0.6	17:14 1.8	23:49 -0.3	Th	25	6:26 0.0	6:33 2.0	12:50 0.0	19:00 2.0	Th	25	5:17 1.9	11:33 -0.1	17:48 2.1																
Tu	26	6:19 2.2	12:40 0.8	18:12 1.8		F	26	1:16 0.1	7:13 1.9	13:36 0.0	19:50 1.9	F	26	0:11 0.2	5:54 1.9	12:17 -0.2	18:40 2.1															
W	27	0:40 -0.2	7:01 2.1	13:23 0.2	19:09 1.8	○ S	27	2:06 0.3	7:52 1.9	14:23 -0.1	20:45 1.9	S	27	1:01 0.2	6:35 1.8	13:02 -0.2	19:31 2.0															
Th	28	1:30 0.0	7:44 2.0	14:08 0.1	20:10 1.8	S	28	3:00 0.5	8:32 1.8	15:11 -0.1	21:41 1.8	S	28	1:50 0.4	7:14 1.8	13:48 -0.2	20:22 2.0															
F	29	2:23 0.2	8:29 1.9	14:58 0.1	21:11 1.8	N	M	29	2:38 0.6	7:56 1.7	14:37 -0.1	21:13 1.9	M	29	2:38 0.6	7:56 1.7	14:37 -0.1	21:13 1.9														
S	30	3:22 0.4	9:11 1.8	15:43 0.0	22:08 1.7														Tu	30	3:29 0.7	8:41 1.6	15:26 -0.1	22:07 1.8								
S	31	4:17 0.6	9:51 1.8	16:40 0.0	23:13 1.7														W	31	4:24 0.8	9:31 1.6	16:18 0.0	22:59 1.7								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	5:22 0.8	10:28 1.5	17:15 0.2	23:52 1.7	A	S	1	5:40 0.6	11:16 1.4	17:35 0.4	23:51 1.7	O	Tu	1	6:45 0.2	13:05 1.5	19:06 0.6	...
	F	2	6:20 0.8	11:31 1.4	18:12 0.2	...	S	2	6:38 0.5	12:24 1.4	18:35 0.5	...	W		2	0:41 1.7	7:30 0.1	13:56 1.7	20:04 0.6	
	S	3	0:44 1.7	7:13 0.7	12:31 1.4	19:11 0.8	E	M	3	0:49 1.7	7:21 0.4	13:29 1.5	19:40 0.5		Th	3	1:26 1.7	8:12 0.0	14:46 1.8	20:56 0.6
	S	4	1:30 1.7	7:58 0.6	13:40 1.4	20:06 0.3	Tu	4	1:34 1.7	8:06 0.3	14:21 1.6	20:36 0.5	F		4	2:10 1.7	8:56 -0.2	15:26 2.0	21:46 0.6	
E	M	5	2:20 1.7	8:42 0.4	14:39 1.5	20:57 0.3	W	5	2:15 1.7	8:49 0.2	15:06 1.7	21:24 0.5	S	5	2:55 1.7	9:40 -0.3	16:25 2.1	22:38 0.6		
○	Tu	6	3:05 1.7	9:24 0.3	15:31 1.7	21:46 0.8	Th	6	2:55 1.7	9:29 0.0	15:55 1.9	22:13 0.5	S	6	3:41 1.7	10:23 -0.4	17:11 2.2	23:26 0.6		
○	W	7	3:42 1.7	10:04 0.2	16:18 1.8	22:32 0.3	F	7	3:36 1.7	10:10 -0.1	16:41 2.0	23:00 0.5	M	7	4:29 1.7	11:09 -0.4	17:58 2.3	...		
	Th	8	4:20 1.8	10:42 0.1	16:58 1.9	23:16 0.8	S	8	4:16 1.7	10:50 -0.2	17:28 2.1	...	Tu	8	0:15 0.6	5:16 1.7	11:55 -0.4	18:45 2.3		
	F	9	4:58 1.8	11:20 0.0	17:43 2.0	...	S	9	4:58 1.7	11:33 -0.3	18:14 2.2	...	W	9	1:04 0.6	6:08 1.7	12:43 -0.4	19:29 2.2		
	S	10	0:01 0.3	5:35 1.8	12:02 -0.1	18:30 2.0	S	M	10	0:31 0.5	5:41 1.7	12:17 -0.3	19:01 2.2	Th	10	1:53 0.5	7:01 1.6	13:38 -0.3	20:15 2.1	
S	S	11	0:50 0.4	6:14 1.8	12:43 -0.2	19:18 2.1	Tu	11	1:21 0.6	6:27 1.7	13:01 -0.3	19:50 2.2	F	11	2:41 0.5	8:01 1.6	14:28 -0.1	21:01 2.0		
	M	12	1:35 0.5	6:57 1.7	13:27 -0.2	20:08 2.1	W	12	2:10 0.6	7:17 1.6	13:51 -0.3	20:39 2.1	S	12	3:30 0.4	9:08 1.6	15:24 0.1	21:47 1.9		
	Tu	13	2:25 0.6	7:41 1.7	14:15 -0.2	21:00 2.0	Th	13	3:01 0.6	8:12 1.6	14:45 -0.2	21:29 2.0	S	13	4:20 0.8	10:15 1.6	16:26 0.3	22:41 1.8		
	W	14	3:17 0.6	8:32 1.6	15:07 -0.2	21:53 2.0	F	14	3:53 0.6	9:14 1.6	15:44 0.0	22:19 1.9	M	14	5:13 0.2	11:27 1.7	17:39 0.4	23:27 1.8		
C	Th	15	4:13 0.7	9:28 1.6	16:06 -0.1	22:48 1.9	S	15	4:45 0.5	10:24 1.6	16:46 0.1	23:09 1.9	Tu	15	6:06 0.3	12:29 1.7	18:41 0.5	...		
	F	16	5:10 0.6	10:31 1.6	17:07 0.0	23:44 1.9	S	16	5:40 0.4	11:38 1.6	17:51 0.3	...	W	16	0:12 1.7	6:59 0.0	13:33 1.8	19:41 0.7		
	S	17	6:07 0.6	11:42 1.6	18:14 0.1	...	M	17	0:06 1.8	6:35 0.2	12:48 1.7	19:01 0.3	Th	17	0:59 1.7	7:50 -0.2	14:32 1.9	20:37 0.7		
	S	18	0:38 1.8	7:02 0.4	12:54 1.7	19:20 0.1	Tu	18	0:56 1.7	7:26 0.1	13:45 1.8	20:02 0.4	F	18	1:45 1.7	8:38 -0.3	15:28 1.9	21:31 0.8		
P	M	19	1:36 1.8	7:54 0.3	14:01 1.8	20:23 0.2	W	19	1:43 1.7	8:16 0.0	14:45 1.9	21:04 0.5	S	19	2:31 1.7	9:26 -0.3	16:18 2.0	22:20 0.8		
●	Tu	20	2:27 1.8	8:44 0.2	14:58 1.9	21:20 0.2	Th	20	2:26 1.7	9:04 -0.2	15:40 2.0	21:55 0.5	S	20	3:20 1.7	10:11 -0.4	17:02 2.0	23:07 0.6		
N	W	21	3:11 1.8	9:32 0.0	15:52 2.0	22:16 0.2	F	21	3:10 1.7	9:51 -0.3	16:33 2.1	22:44 0.6	M	21	4:07 1.6	10:55 -0.3	17:44 2.1	23:34 0.7		
	Th	22	3:53 1.8	10:18 -0.1	16:45 2.1	23:07 0.3	S	22	3:54 1.7	10:35 -0.4	17:20 2.1	23:31 0.6	Tu	22	4:55 1.6	11:40 -0.3	18:25 2.1	...		
	F	23	4:34 1.8	11:02 -0.3	17:37 2.1	23:55 0.4	S	23	4:37 1.7	11:20 -0.4	18:05 2.1	...	W	23	0:41 0.6	5:45 1.6	12:22 -0.2	19:03 2.0		
	S	24	5:16 1.8	11:47 -0.3	18:25 2.1	...	M	24	0:19 0.6	5:21 1.7	12:04 -0.3	18:49 2.1	Th	24	1:29 0.6	6:36 1.5	13:06 -0.1	19:42 2.0		
N	S	25	0:41 0.5	5:56 1.8	12:32 -0.3	19:12 2.1	Tu	25	1:06 0.6	6:08 1.6	12:48 -0.2	19:31 2.0	F	25	2:10 0.5	7:31 1.5	13:50 0.1	20:19 2.0		
	M	26	1:28 0.6	6:38 1.7	13:17 -0.3	20:00 2.0	W	26	1:54 0.6	6:56 1.6	13:31 -0.1	20:14 2.0	S	26	2:58 0.4	8:28 1.3	14:37 0.3	20:58 1.9		
	Tu	27	2:16 0.6	7:24 1.6	14:08 -0.2	20:48 1.9	Th	27	2:43 0.6	7:49 1.6	14:20 0.0	20:56 1.9	S	27	3:41 0.3	9:28 1.4	15:32 0.4	21:46 1.8		
	W	28	3:07 0.7	8:13 1.5	14:50 0.0	21:32 1.8	F	28	3:30 0.5	8:48 1.4	15:06 0.2	21:40 1.9	M	28	4:29 0.2	10:30 1.4	16:30 0.5	22:29 1.8		
D	Th	29	4:00 0.7	9:08 1.5	15:42 0.1	22:19 1.8	S	29	4:16 0.5	9:50 1.4	16:00 0.3	22:20 1.8	Tu	29	5:15 0.2	11:34 1.5	17:27 0.6	23:14 1.7		
	F	30	4:53 0.6	10:08 1.4	16:38 0.3	23:06 1.7	S	30	5:06 0.4	10:56 1.4	17:08 0.5	23:12 1.7	W	30	6:04 0.1	12:30 1.6	18:27 0.7	23:56 1.7		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 13:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ○, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Moon.	Day of—	Time and Height of High and Low Water.								Moon.	Day of—	Time and Height of High and Low Water.								Moon.	Day of—	Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C E A ● D P O	F	1	3:45 1.9	10:07 0.0	16:08 1.9	22:21 0.0					M	1	5:15 2.2	11:31 0.4	16:51 1.8	23:25 -0.4		W	1	5:46 2.1	11:58 0.6	17:00 1.7	23:47 -0.4									
	S	2	4:35 2.0	10:59 0.1	16:49 1.9	23:08 -0.1					Tu	2	6:04 2.2	12:20 0.5	17:38 1.8		Th	2	6:31 2.1	12:45 0.6	17:50 1.7											
	S	3	5:26 2.1	11:49 0.2	17:28 1.8	23:53 -0.2					W	3	6:10 -0.4	12:58 2.2	18:08 0.6	18:17 1.7		F	3	6:30 -0.3	7:15 2.1	13:34 0.6	18:49 1.6									
	M	4	6:19 2.1	12:41 0.3	18:09 1.8						Th	4	6:56 -0.4	7:39 2.1	18:56 0.6	19:08 1.6		S	4	1:17 -0.2	7:56 2.0	14:24 0.6	19:21 1.5									
	Tu	5	6:39 -0.3	7:09 2.1	13:29 0.4	18:50 1.8					F	5	1:44 -0.2	8:26 2.0	14:47 0.6	19:58 1.6	C	S	5	2:00 0.0	8:38 2.0	15:10 0.5	20:31 1.4									
	W	6	1:26 -0.3	8:00 2.0	14:17 0.5	19:33 1.7					S	6	2:32 -0.1	9:18 1.9	15:40 0.6	20:48 1.5	E A	M	6	2:49 0.2	9:19 1.9	15:56 0.4	21:32 1.4									
	Th	7	2:14 -0.2	8:51 1.9	15:08 0.6	20:19 1.6					S	7	3:21 0.1	9:59 1.8	16:30 0.6	21:50 1.4	Tu	7	3:41 0.3	10:00 1.8	16:46 0.4	22:38 1.4										
	F	8	3:04 -0.1	9:43 1.9	16:01 0.7	21:10 1.6					M	8	4:15 0.3	10:44 1.7	17:20 0.5	22:58 1.4	W	8	4:43 0.5	10:50 1.7	17:36 0.3	23:44 1.4										
	S	9	3:56 0.0	10:36 1.8	17:00 0.7	22:07 1.5					Tu	9	5:12 0.4	11:30 1.7	18:13 0.5		Th	9	5:44 0.6	11:33 1.7	18:25 0.2											
	S	10	4:52 0.1	11:28 1.7	17:55 0.7	23:10 1.4	A E	W	10	6:07 1.4	12:25 0.5	19:03 0.8		F	10	6:46 1.5	6:42 0.7	12:17 1.7	19:10 0.1													
	M	11	5:50 0.2	12:17 1.6	18:47 0.6			Th	11	1:12 1.5	7:24 0.6	13:08 1.7	19:48 0.2	S	11	1:38 1.6	7:39 0.7	13:00 1.7	19:53 0.0													
	Tu	12	0:19 1.4	6:50 0.8	13:07 1.6	19:36 0.5		F	12	2:07 1.6	8:18 0.6	13:49 1.7	20:30 0.1	S	12	2:28 1.7	8:33 0.7	13:45 1.7	20:36 -0.1													
	W	13	1:26 1.4	7:46 0.4	14:00 1.7	20:24 0.4	●	S	13	2:58 1.7	9:06 0.6	14:30 1.7	21:09 0.0	●	M	13	3:18 1.9	9:25 0.7	14:30 1.7	21:20 -0.3												
	Th	14	2:25 1.6	8:39 0.4	14:41 1.7	21:05 0.3		S	14	3:39 1.8	9:53 0.6	15:10 1.7	21:49 -0.1	S	Tu	14	4:05 2.0	10:15 0.7	15:16 1.6	22:05 -0.4												
	F	15	3:19 1.7	9:31 0.4	15:19 1.7	21:45 0.2		M	15	4:25 2.0	10:40 0.6	15:51 1.7	22:29 -0.2	W	15	4:52 2.1	11:04 0.7	16:04 1.6	22:44 -0.1													
S	16	4:00 1.7	10:15 0.4	15:55 1.7	22:23 0.1		Tu	16	5:10 2.1	11:25 0.6	16:38 1.7	23:11 -0.8	Th	16	5:37 2.2	11:51 0.7	16:52 1.6	23:34 -0.4														
S	17	4:41 1.9	11:00 0.4	16:32 1.7	23:00 -0.1		W	17	5:55 2.2	12:11 0.6	17:17 1.7	23:54 -0.4	F	17	6:21 2.2	12:40 0.6	17:44 1.6															
M	18	5:27 2.0	11:45 0.4	17:10 1.8	23:40 -0.2		Th	18	6:41 2.2	12:59 0.6	18:02 1.6		S	18	6:21 -0.4	7:07 2.2	13:28 0.5	18:37 1.6														
Tu	19	6:11 2.0	12:30 0.5	17:50 1.7			F	19	6:39 -0.3	7:27 2.2	13:48 0.6	18:53 1.6	S	19	1:10 -0.3	7:51 2.2	14:15 0.5	19:33 1.6														
W	20	6:20 -0.2	6:59 2.1	13:15 0.5	18:30 1.7		S	20	1:29 -0.3	8:15 2.1	14:38 0.6	19:46 1.6	D M	20	2:01 -0.1	8:34 2.1	15:01 0.4	20:37 1.6														
Th	21	1:04 -0.2	7:46 2.1	14:08 0.6	19:15 1.6	D	S	21	2:19 -0.2	9:01 2.1	15:28 0.5	20:47 1.6	E Tu	21	2:56 0.0	9:18 2.0	15:51 0.3	21:45 1.6														
F	22	1:50 -0.2	8:35 2.1	14:53 0.6	20:05 1.6		M	22	3:14 0.0	9:50 2.0	16:18 0.5	21:54 1.5	W	22	3:56 0.2	10:11 1.9	16:44 0.2	22:53 1.7														
S	23	2:40 -0.2	9:27 2.0	15:46 0.7	21:00 1.6		Tu	23	4:14 0.1	10:38 1.9	17:10 0.4	23:06 1.6	P Th	23	5:06 0.4	10:56 1.8	17:36 0.1	23:59 1.7														
S	24	3:35 -0.1	10:20 2.0	16:41 0.6	22:04 1.5	E	W	24	5:19 0.3	11:34 1.8	18:05 0.2		F	24	6:09 0.5	11:42 1.7	18:30 -0.1															
M	25	4:37 0.0	11:13 1.9	17:38 0.5	23:12 1.5	P	Th	25	6:19 1.7	12:24 0.4	19:00 1.8	0.1	S	25	1:04 1.8	7:10 0.6	12:30 1.7	19:22 -0.2														
Tu	26	5:43 0.1	12:06 1.8	18:31 0.4			F	26	1:17 1.8	7:34 0.4	13:10 1.7	19:50 -0.1	S	26	2:06 1.9	8:10 0.7	13:18 1.7	20:13 -0.3														
W	27	6:27 1.6	6:49 0.2	13:04 1.8	19:26 0.3	○	S	27	2:20 1.9	8:35 0.5	13:57 1.7	20:39 -0.2	○ M	27	3:05 1.9	9:05 0.8	14:06 1.7	21:04 -0.4														
Th	28	1:36 1.7	7:54 0.2	13:56 1.8	20:17 0.2		S	28	3:19 2.0	9:30 0.6	14:44 1.7	21:28 -0.4	Tu	28	3:56 2.0	9:56 0.8	14:56 1.7	21:52 -0.4														
F	29	2:31 1.9	8:53 0.2	14:41 1.8	21:06 0.0		M	29	4:11 2.1	10:20 0.6	15:29 1.7	22:14 -0.4	W	29	4:41 2.0	10:45 0.7	15:47 1.7	22:38 -0.4														
S	30	3:29 2.0	9:52 0.3	15:25 1.8	21:53 -0.2	N	Tu	30	5:00 2.1	11:10 0.6	16:15 1.7	23:00 -0.5	Th	30	5:25 2.1	11:34 0.7	16:38 1.7	23:24 -0.3														
S	31	4:24 2.1	10:44 0.4	16:08 1.8	22:39 -0.3								F	31	6:06 2.1	12:21 0.6	17:28 1.6															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 150th meridian, E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Mo.	Day of—	Time and Height of High and Low Water.				Mo.	Day of—	Time and Height of High and Low Water.				Mo.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
	F 1	3:01	9:14	15:02	23:09		M 1	9:50	17:18	21:13			M 1	2:37	7:44	13:49	21:00
		2.6	3.5	2.2	4.4			2.0						1.9	3.8	1.3	5.1
	S 2	8:36	11:43	16:23		N	Tu 2	1:11	10:06	17:18	21:13	N	Tu 2	3:27	6:12	13:03	23:19
		2.4	3.0	2.6				4.8	1.1	3.4	2.7			2.8	3.0	1.9	4.3
	S 3	0:53	9:21	15:48	20:12		W 3	3:21	10:36	17:15	22:05		W 3	10:09	17:38	21:38	
		4.8	1.4	3.3	2.4			5.6	0.3	4.0	2.1			1.3	3.8	3.0	
	M 4	2:29	9:56	16:20	21:11		Th 4	4:11	11:00	17:30	22:39		Th 4	3:31	10:21	17:08	22:10
		5.5	0.6	3.7	1.9			6.2	-0.3	4.6	1.4			5.1	0.5	4.5	2.0
	Tu 5	3:25	10:32	16:51	21:54	○	F 5	4:46	11:24	17:47	23:10		F 5	4:13	10:41	17:11	22:41
		6.2	0.0	4.1	1.6			6.6	-0.6	5.0	1.0			5.8	-0.1	5.1	1.1
N	W 6	4:04	11:04	17:19	22:29		S 6	5:18	11:45	18:04	23:35		S 6	4:43	11:09	17:26	23:09
○		6.6	-0.4	4.4	1.3			6.8	-0.7	5.3	0.8			6.3	-0.5	5.7	0.5
	Th 7	4:49	11:27	17:41	22:55		S 7	5:35	12:03	18:19	23:54	○	S 7	5:11	11:30	17:43	23:31
		6.9	-0.5	4.5	1.2			6.9	-0.7	5.5	0.6			6.7	-0.8	6.2	0.1
	F 8	5:02	11:48	18:00	23:18	A	M 8	5:56	12:20	18:31			M 8	5:31	11:47	17:56	23:51
		7.0	-0.5	4.6	1.1			6.8	-0.7	5.8				6.8	-0.8	6.5	-0.1
	S 9	5:24	12:05	18:15	23:39		Tu 9	6:14	6:17	12:34	18:42	E	Tu 9	5:53	12:00	18:09	
		7.0	-0.4	4.7	1.0			0.4	6.7	-0.6	6.0			6.8	-0.7	6.7	
	S 10	5:44	12:21	18:30		E	W 10	6:34	6:39	12:53	19:01		W 10	6:08	6:10	12:13	18:21
		6.9	-0.4	4.9				0.8	6.5	-0.5	6.3			-0.3	6.6	-0.6	6.9
A	M 11	0:01	6:10	12:42	18:51		Th 11	1:01	7:01	13:11	19:28		Th 11	0:25	6:28	12:25	18:34
		1.0	6.8	-0.3	5.1			0.2	6.2	-0.2	6.3			-0.4	6.5	-0.5	7.0
	Tu 12	0:30	6:38	13:05	19:21		F 12	1:30	7:24	13:32	19:53		F 12	0:46	6:45	12:40	18:51
		0.9	6.4	-0.1	5.3			0.4	5.7	0.1	6.2			-0.4	6.2	-0.3	7.1
	W 13	1:06	7:10	13:35	20:00	☾	S 13	1:59	7:52	13:54	20:29		S 13	1:09	7:08	13:00	19:15
		1.0	6.0	0.1	5.4			0.7	6.0	0.5	5.9			-0.2	5.6	-0.1	6.9
E	Th 14	1:45	7:46	14:06	20:40		S 14	2:36	8:20	14:15	21:13		S 14	1:34	7:23	13:19	19:39
		1.3	5.3	0.5	5.3			1.4	4.1	1.1	5.4			0.2	4.9	0.3	6.5
☾	F 15	2:30	8:29	14:36	21:35		M 15	3:26	8:20	14:11	22:34	☾	M 15	2:06	7:41	13:30	20:04
		1.7	4.6	1.1	5.1			2.2	3.4	1.9	4.8			0.9	4.2	0.9	5.8
	S 16	3:21	9:31	15:14	22:51		Tu 16	4:45				S	Tu 16	2:39	7:25	13:20	20:10
		2.2	3.8	1.8	4.9			1.8						1.9	3.3	1.6	4.9
	S 17	6:38	11:31	16:06		S	W 17	1:45	10:11	17:23	21:48		W 17	10:47	18:35		
		2.5	3.1	2.4				4.7	0.8	3.9	2.7			1.8	4.0		
	M 18	0:28	9:11	15:46	20:14		Th 18	3:45	10:40	17:21	22:27		Th 18	10:08	17:16	22:00	
		4.9	1.4	3.0	2.6			5.6	0.0	4.6	1.8			0.9	4.3	2.7	
	Tu 19	2:22	10:00	16:38	21:30		F 19	4:30	11:09	17:36	22:57		F 19	3:55	10:25	17:04	22:25
		5.5	0.5	3.9	2.1			6.3	-0.5	5.0	1.2			5.1	0.3	4.9	1.5
	W 20	3:31	10:39	17:11	22:14	●	S 20	5:03	11:31	17:53	23:25		S 20	4:25	10:50	17:11	22:51
		6.1	-0.2	4.9	1.7			6.7	-0.8	5.4	0.7			5.9	-0.3	5.6	0.7
S	Th 21	4:19	11:11	17:39	22:49	P	S 21	5:29	11:54	18:07	23:49	P	S 21	4:54	11:18	17:24	23:16
		6.7	-0.6	4.6	1.4			6.9	-0.7	5.7	0.4			6.4	-0.6	6.1	0.0
●	F 22	4:55	11:40	18:07	23:16		M 22	5:51	12:11	18:19		●	M 22	5:17	11:31	17:37	23:38
		6.9	-0.7	4.8	1.1			6.8	-0.6	6.0		E		6.6	-0.5	6.5	-0.8
P	S 23	5:22	12:04	18:21	23:40	E	Tu 23	6:06	6:13	12:23	18:30		Tu 23	5:40	11:44	17:49	23:56
		7.0	-0.6	4.9	1.0			0.2	6.6	-0.4	6.2			6.7	-0.5	6.7	-0.5
	S 24	5:45	12:21	18:35			W 24	6:24	6:31	12:34	18:41		W 24	5:59	11:54	17:59	
		7.0	-0.5	5.0				0.1	6.3	-0.2	6.5			6.6	-0.3	6.9	
	M 25	0:01	6:09	12:39	18:48		Th 25	0:45	6:49	12:47	18:59		Th 25	0:11	6:11	12:03	18:09
		0.9	6.7	-0.3	5.2			0.0	6.1	-0.1	6.6			-0.6	6.2	-0.2	7.2
	Tu 26	0:21	6:30	12:55	19:01		F 26	1:13	7:05	13:02	19:19		F 26	0:30	6:25	12:14	18:25
		0.8	6.5	-0.1	5.4			0.1	6.7	0.0	6.6			-0.6	5.9	-0.2	7.3
E	W 27	0:51	6:56	13:15	19:27	☽	S 27	1:38	7:25	13:21	19:50		S 27	0:49	6:40	12:29	18:47
		0.7	6.0	0.2	5.7			0.5	5.1	0.3	6.4			-0.3	5.5	-0.1	7.2
	Th 28	1:23	7:21	13:33	19:56		S 28	2:03	7:42	13:40	20:20		S 28	1:11	6:58	12:49	19:13
		0.9	5.4	0.5	5.6			1.0	4.3	0.7	5.8			0.0	5.0	0.1	6.9
☽	F 29	1:57	7:48	13:51	20:33							☽	M 29	1:40	7:16	13:10	19:40
		1.2	4.8	0.9	5.5									0.6	4.4	0.5	6.2
	S 30	2:31	8:11	14:11	21:23								Tu 30	2:11	7:30	13:20	20:02
		1.8	4.0	1.3	5.2									1.4	3.7	1.3	5.3
	S 31	3:24	8:00	14:21	22:45								W 31	2:49	6:41	12:48	19:20
		2.6	3.0	1.8	4.8									2.3	2.9	2.0	4.2

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is 1.0 foot above the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height increased by 1.0 foot to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian, E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.											
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.					W.	Mo.					W.	Mo.							
A	Th	1	9:46	17:10	21:38	...	A	S	1	1:55	8:56	15:28	21:26	Tu	1	3:01	9:00	15:11	21:54		
			1.7	4.0	2.9	...				4.0	1.4	4.8	1.6			4.6	1.0	6.2	0.2		
	F	2	3:11	9:52	16:31	21:59		S	2	3:09	9:27	15:43	21:56	W	2	3:50	9:40	15:46	22:29		
			4.6	0.9	4.8	1.7				4.7	0.8	5.6	0.7			4.9	0.7	6.7	-0.3		
	S	3	3:58	10:15	16:35	22:35	E	M	3	3:48	9:54	16:05	22:26	Th	3	4:31	10:11	16:16	23:00		
			5.3	0.2	5.6	0.7				5.4	0.3	6.4	-0.1			5.1	0.7	7.0	-0.6		
	S	4	4:21	10:36	16:50	22:51		Tu	4	4:21	10:20	16:28	22:51	○	F	4	5:06	10:38	16:45	23:29	
			6.0	-0.2	6.4	0.0				5.9	-0.1	6.9	-0.6			5.0	0.9	7.2	-0.7		
	E	M	5	4:50	10:59	17:09	23:14	○	W	5	4:52	10:45	16:49	23:16		S	5	5:38	10:59	17:04	23:54
			6.4	-0.5	6.8	-0.5				6.0	-0.1	7.1	-0.8			4.7	1.0	7.2	-0.5		
C	Tu	6	5:15	11:19	17:22	23:35		Th	6	5:18	11:01	17:06	23:37	S	S	6	5:56	11:16	17:26	...	
			6.6	-0.7	7.1	-0.8				5.8	0.1	7.3	-0.8			4.4	1.1	7.2	...		
	W	7	5:35	11:38	17:38	23:52		F	7	5:38	11:18	17:23	23:58		M	7	0:15	6:17	11:34	17:50	
			6.6	-0.5	7.2	-0.8				5.5	0.3	7.4	-0.7			-0.3	4.2	1.2	7.0		
	Th	8	5:52	11:44	17:50	...		S	8	5:55	11:30	17:40	...		Tu	8	0:40	6:39	11:54	18:12	
			6.3	-0.3	7.3	...				5.1	0.5	7.4	...			0.0	4.0	1.3	6.7		
	F	9	0:11	6:09	11:55	18:04		S	9	0:19	6:13	11:44	17:59		W	9	1:05	7:04	12:25	18:44	
			-0.8	6.0	-0.2	7.4				-0.5	4.7	0.6	7.3			0.3	3.9	1.4	6.2		
	S	10	0:28	6:24	12:09	18:20	S	M	10	0:41	6:30	12:00	18:20		Th	10	1:35	7:41	13:08	19:19	
			-0.6	5.5	0.0	7.4				-0.1	4.4	0.7	7.0			0.7	3.8	1.7	5.4		
S	S	11	0:49	6:40	12:26	18:41		Tu	11	1:07	6:51	12:24	18:46	○	F	11	2:09	8:44	13:49	20:07	
			-0.3	5.1	0.2	7.1				0.3	4.0	1.0	6.4			1.2	5.8	2.3	4.5		
	M	12	1:15	6:59	12:44	19:08		W	12	1:37	7:20	12:46	19:09		S	12	2:49	10:19	15:11	22:10	
			0.2	4.5	0.6	6.6				0.8	3.6	1.5	5.6			1.8	3.8	2.9	3.8		
	Tu	13	1:45	7:17	12:57	19:24	○	Th	13	2:11	8:00	13:00	19:20	E	S	13	3:59	12:09	20:22	...	
			0.9	3.9	1.1	5.9				1.6	3.0	2.2	4.6			2.3	4.2	2.5	...		
	W	14	2:16	7:10	12:52	19:21		F	14	3:01	8:18	20:00	17:53		M	14	0:39	7:19	13:36	21:07	
			1.8	3.1	1.7	4.9				2.4	2.6	2.5	3.5			3.4	2.4	4.6	1.5		
	Th	15	2:56	5:30	10:10	18:01		S	15	3:34	15:13	21:13	...		Tu	15	2:45	8:26	14:31	21:43	
			2.7	2.9	2.0	4.1				2.0	4.3	2.3	...			3.7	2.0	5.5	0.7		
P	F	16	9:40	16:37	21:48	...	E	S	16	2:41	9:04	15:21	21:40		W	16	3:46	9:09	15:16	22:19	
			1.4	4.4	2.2	...				4.1	1.6	4.8	1.4			4.0	1.7	6.2	0.2		
	S	17	3:35	9:59	16:25	22:08	P	M	17	3:33	9:29	15:38	22:07		Th	17	4:28	9:47	15:54	22:53	
			4.7	0.8	5.1	1.2				4.7	1.2	5.7	0.5			4.2	1.5	6.6	-0.2		
	S	18	4:06	10:18	16:30	22:32	●	W	19	4:38	10:19	16:28	23:00	●	F	18	5:00	10:16	16:25	23:21	
			5.4	0.4	5.9	0.3				5.1	0.8	6.3	-0.2			4.3	1.4	6.8	-0.3		
	M	19	4:34	10:37	16:44	22:58		Th	20	5:04	10:38	16:41	23:24	N	S	19	5:27	10:40	16:49	23:44	
			6.0	0.1	6.3	-0.2				5.2	0.7	6.8	-0.5			4.2	1.3	7.0	-0.3		
	Tu	20	5:00	10:58	16:59	23:20		F	21	5:23	10:52	16:59	23:44		S	20	5:46	11:01	17:11	...	
			6.2	-0.1	6.7	-0.6				5.1	0.6	7.1	-0.5			4.2	1.2	7.0	...		
N	W	21	5:23	11:11	17:13	23:39		S	22	5:39	11:06	17:18	...		M	21	0:02	6:08	11:22	13:34	
			6.1	0.0	7.0	-0.7				4.9	0.7	7.3	-0.4			-0.1	4.2	1.2	6.9		
	Th	22	5:39	11:21	17:27	23:56		S	23	0:02	5:54	11:24	17:39		Tu	22	0:21	6:24	11:47	18:01	
			5.8	0.1	7.3	-0.6				4.6	0.7	7.3	...			-0.1	4.3	1.1	6.7		
	F	23	5:52	11:31	17:40	...	N	M	24	0:23	6:14	11:44	18:05		W	23	0:46	6:48	12:16	18:31	
			5.5	0.1	7.5	...				-0.3	4.5	0.7	7.3			0.0	4.5	1.2	6.4		
	S	24	0:12	6:05	11:45	17:59		Tu	25	0:49	6:37	12:11	18:31	A	Th	24	1:11	7:24	13:00	19:09	
			-0.5	5.2	0.2	7.5				0.1	4.3	0.9	6.7			0.1	4.6	1.3	6.0		
	S	25	0:32	6:21	12:01	18:21		W	26	1:17	7:13	12:47	19:05		F	25	1:44	8:12	13:45	19:55	
			-0.3	4.9	0.2	7.3				0.4	4.1	1.2	6.0			0.4	4.7	1.6	5.3		
D	M	26	0:51	6:45	12:24	18:47		Th	27	1:52	8:08	13:30	19:49	○	S	26	2:23	9:10	14:44	20:59	
			0.0	4.6	0.4	6.9				0.4	4.1	1.2	6.0			0.7	4.8	2.1	4.6		
	Tu	27	1:25	7:06	12:50	19:15	D	F	28	2:39	9:41	14:27	21:17		M	28	4:13	11:37	19:01	...	
			0.5	4.2	0.9	6.2				1.4	3.7	2.6	4.3			1.7	4.9	2.3	...		
	W	28	1:59	7:41	13:13	19:41		A	S	29	3:51	11:55	19:19	23:51		Tu	29	0:03	6:00	12:58	20:41
			1.2	3.7	1.6	5.2				1.9	4.0	2.8	3.8			3.7	2.0	5.3	1.4		
	Th	29	2:43	8:57	13:15	19:33		E	S	30	7:09	13:34	20:39	...		W	30	2:05	7:57	14:11	21:34
			2.0	2.9	2.4	4.1				1.9	4.7	1.8	...			3.7	1.9	5.8	0.6		
	F	30	8:17	16:01	21:00	...		M	31	1:53	8:16	14:27	21:20								
			2.1	3.9	2.8	...				4.1	1.5	5.5	0.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is 1.0 foot above the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height increased by 1.0 foot to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian, E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; ☾, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.							AUGUST.							SEPTEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
O	Th	1	3:33 4.0	9:05 1.6	15:11 6.4	22:18 0.0	O	S	1	5:25 4.5	10:35 1.5	16:40 6.7	23:27 -0.5	E	W	1	5:50 5.8	11:35 0.3	17:37 6.7	23:55 -0.5
	F	2	4:31 4.3	9:58 1.4	15:58 6.7	22:56 -0.4		M	2	5:52 4.8	11:08 1.2	17:14 6.8	23:54 -0.5		Th	2	6:05 6.0	11:55 0.1	18:00 6.5	
	S	3	5:14 4.4	10:29 1.4	16:36 6.9	23:30 -0.5		Tu	3	6:14 4.9	11:35 1.1	17:40 6.8			F	3	6:08 -0.3	6:16 6.2	12:14 0.1	18:20 6.2
	S	4	5:49 4.5	10:59 1.4	17:05 7.0	23:56 -0.5		W	4	6:15 -0.4	6:30 5.0	12:00 1.0	18:08 6.6		S	4	6:20 -0.1	6:28 6.4	12:34 0.0	18:36 6.0
	M	5	6:17 4.4	11:24 1.4	17:34 6.9			Th	5	6:34 -0.2	6:44 5.2	12:20 0.9	18:27 6.3		S	5	6:32 0.0	6:40 6.6	12:56 0.1	18:54 5.5
P	Tu	6	6:19 -0.2	6:35 4.3	11:47 1.4	17:56 6.7	E	F	6	6:50 0.0	6:58 5.4	12:45 0.8	18:50 5.9	D	M	6	6:46 0.2	7:02 6.6	13:20 0.3	19:10 4.9
	W	7	6:41 0.0	6:58 4.3	12:10 1.4	18:23 6.4		S	7	1:07 0.2	7:16 5.7	13:15 0.8	19:15 5.5		Tu	7	1:04 0.3	7:30 6.4	13:50 1.0	19:28 4.3
	Th	8	1:03 0.3	7:14 4.4	12:41 1.4	18:54 6.0		S	8	1:24 0.5	7:42 5.7	13:48 1.0	19:40 4.9		W	8	1:24 0.7	8:00 6.0	14:25 1.8	19:35 3.5
	F	9	1:28 0.5	7:45 4.6	13:21 1.5	19:30 5.3		M	9	1:42 0.8	8:15 5.7	14:20 1.5	20:08 4.2		Th	9	1:35 1.2	8:37 5.2	15:10 2.7	18:25 3.0
	S	10	1:54 0.9	8:24 4.8	14:04 1.8	20:09 4.6		Tu	10	2:02 1.1	9:00 5.4	15:06 2.2	20:34 3.3		F	10	1:12 1.8	10:22 4.4	21:54 1.5	
C	S	11	2:25 1.3	9:10 4.7	14:56 2.2	21:01 3.9	N	W	11	2:20 1.6	10:05 5.0			S	S	11	5:40 3.7	9:15 3.2	15:00 4.7	22:02 0.8
	M	12	2:52 1.7	10:15 4.7	16:14 2.6	22:29 3.0		Th	12	2:04 2.1	11:50 4.7	21:48 1.4			S	12	4:50 4.3	9:50 2.1	15:50 5.5	22:24 0.2
	Tu	13	3:34 2.2	11:35 4.8	20:44 1.9			F	13	6:00 3.2	8:40 3.0	14:35 5.2	22:18 0.6		M	13	4:50 5.0	10:23 1.2	16:25 6.1	22:50 -0.3
	W	14	6:58 2.8	4:41 2.7	18:16 5.1	21:38 1.1		S	14	5:10 3.9	9:45 2.4	15:49 5.9	22:45 0.0		Tu	14	5:05 5.7	10:50 0.5	16:50 6.5	23:10 -0.6
	Th	15	4:15 3.1	8:30 2.5	14:46 5.7	22:18 0.4		S	15	5:18 4.4	10:25 1.6	16:30 6.3	23:10 -0.3		W	15	5:22 6.2	11:16 0.0	17:15 6.6	23:28 -0.6
N	F	16	4:49 3.6	9:34 2.1	15:45 6.2	22:51 0.0	M	M	16	5:34 4.9	10:58 1.1	17:00 6.5	23:33 -0.5	E	Th	16	5:36 6.5	11:36 -0.2	17:40 6.6	23:45 -0.6
	S	17	5:17 4.1	10:16 1.7	16:25 6.6	23:21 -0.2		Tu	17	5:52 5.2	11:25 0.8	17:27 6.7	23:52 -0.5		F	17	5:50 6.8	11:55 -0.4	17:58 6.6	23:56 -0.5
	S	18	5:41 4.3	10:49 1.5	16:58 6.7	23:46 -0.3		W	18	6:05 5.5	11:45 0.6	17:47 6.6			S	18	6:04 6.8	12:12 -0.4	18:12 6.3	
	M	19	6:01 4.5	11:15 1.3	17:21 6.7			Th	19	6:07 -0.5	12:20 5.8	12:05 0.5	18:08 6.5		S	19	6:08 -0.4	6:16 7.0	12:32 -0.4	18:28 6.0
	Tu	20	6:05 -0.2	6:18 4.6	11:38 1.2	17:44 6.7		F	20	6:24 -0.4	6:34 6.0	12:25 0.3	18:30 6.3		M	20	6:23 -0.2	6:34 7.1	12:36 -0.2	18:45 5.5
A	W	21	6:20 -0.2	6:31 4.8	12:01 1.1	18:08 6.5	A	S	21	6:38 -0.3	6:47 6.4	12:50 0.2	18:50 6.1	D	Tu	21	6:40 0.0	6:55 6.9	13:20 0.2	19:07 4.9
	Th	22	6:39 -0.2	6:47 5.1	12:28 1.0	18:34 6.3		S	22	6:55 -0.2	7:12 6.4	13:20 0.3	19:15 5.7		W	22	1:00 0.3	7:24 6.6	13:50 0.8	19:30 4.2
	F	23	1:00 -0.1	7:15 5.4	13:01 0.9	19:05 5.9		M	23	1:20 0.1	7:40 6.3	13:48 0.6	19:44 5.1		Th	23	1:15 0.9	7:50 5.9	14:28 1.7	19:34 3.4
	S	24	1:29 0.0	7:49 5.6	13:39 1.1	19:40 5.5		Tu	24	1:42 0.4	8:10 6.1	14:25 1.2	20:12 4.2		F	24	1:16 1.5	8:10 5.1	22:20 2.1	
	S	25	1:56 0.4	8:24 5.6	14:20 1.3	20:25 4.9		W	25	2:08 0.9	8:52 5.6	15:12 2.0	20:50 3.0		S	25	10:40 4.1	21:40 1.3		
D	M	26	2:30 0.8	9:11 5.4	15:05 1.8	21:11 4.2	D	Th	26	2:18 1.7	10:00 5.0	21:00 2.1		S	S	26	4:50 4.1	9:35 2.8	15:14 4.8	22:00 0.5
	Tu	27	3:00 1.3	10:14 5.3	16:24 2.2	22:26 3.4		F	27	12:20 4.6	21:44 1.2				M	27	4:34 4.8	10:00 1.6	16:00 5.6	22:25 -0.1
	W	28	3:42 2.0	11:32 5.1	20:19 1.9			S	28	5:10 3.7	9:17 2.8	15:05 5.3	22:17 0.3		Tu	28	4:44 5.6	10:28 0.7	16:30 6.3	22:48 -0.4
	Th	29	6:55 2.9	4:54 2.6	13:15 5.2	21:34 1.0		S	29	5:00 4.4	10:05 1.9	16:04 6.0	22:45 -0.3		W	29	5:00 6.2	10:58 0.0	16:55 6.5	23:10 -0.4
	F	30	4:14 3.4	8:52 2.4	14:54 5.7	22:18 0.2		M	30	5:15 4.9	10:42 1.2	16:44 6.5	23:14 -0.6		Th	30	5:12 6.6	11:20 -0.4	17:22 6.7	23:25 -0.4
S	S	31	4:52 4.1	9:54 1.9	15:58 6.3	22:55 -0.3	O	Tu	31	5:34 5.4	11:10 0.6	17:13 6.7	23:38 -0.7							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is 1.0 foot above the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height increased by 1.0 foot to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.					W.	Mo.					W.	Mo.						
A	F	1	5:27	11:40	17:42	23:35	N	M	1	5:20	11:57	17:48	23:25	C	W	1	5:26	12:14	18:00	23:30
	S	2	6.8	-0.5	6.4	-0.2		Tu	2	7.6	-0.6	5.0	0.2		Th	2	7.4	-0.2	4.4	0.7
	S	3	5:40	11:55	17:56	23:45		W	3	5:40	12:16	18:04	23:42		F	3	5:50	12:35	18:20	23:50
	M	4	7.0	-0.6	6.0	-0.1		Th	4	7.6	-0.3	4.8	0.3		S	4	7.2	0.0	4.4	0.8
	Tu	5	6:50	12:15	18:10	23:55		F	5	6:00	12:38	18:18	23:40		M	5	6:15	13:00	18:52	23:50
	W	6	7.2	-0.5	5.6	0.0		S	6	7.4	0.0	4.5	0.0		Th	6	6.8	0.3	4.2	0.0
	Th	7	6:05	12:34	18:22	23:40		Th	7	0:02	6:25	13:06	18:45		S	7	0:30	6:45	13:30	19:00
	F	8	7.3	-0.3	5.2	0.0		F	8	0.4	7.0	0.4	4.2		M	8	1.1	6.2	0.7	4.1
	S	9	0:10	6:25	12:56	18:40		S	9	0:30	6:50	13:36	19:17		W	9	1:10	7:20	14:07	20:50
	M	10	0.0	7.2	0.1	4.8		Th	10	0.8	6:3	1.0	3.8		Th	10	1.6	5.3	1.2	3.9
	Tu	11	0:28	6:50	13:24	18:56		S	11	0:54	7:14	14:16	20:20		F	11	2:02	8:20	15:02	22:50
	W	12	0.2	6.8	0.6	4.3		Tu	12	1.5	5.4	1.8	3.1		Th	12	2.4	4.4	1.8	3.9
E	Th	13	0:50	7:16	13:56	19:14	A	S	13	1:06	7:10	19:00	E	Tu	13	4:32	10:56	17:25	22:00	
	F	14	0.6	6.2	1.4	3.7		S	14	2.5	4.3	2.4		0.0	W	14	3.2	8.6	2.2	0.0
	S	15	1:04	7:34	14:34	18:42		M	15	3:50	8:50	18:28		20:35	Th	15	0:52	8:25	13:24	19:50
	M	16	1.2	5.4	2.3	3.0		Tu	16	3.8	2.9	3.6		1.6	F	16	4.5	2.1	3.8	1.8
	Tu	17	0:42	7:10	21:30	21:52		W	17	3:00	9:10	14:48		21:05	Th	17	2:00	9:06	14:45	21:40
	W	18	2.0	4.4	1.9	0.0		Th	18	4.7	1.7	4.5		1.0	S	18	5.4	1.1	4.4	1.2
	Th	19	4:50	9:24	14:35	21:30		W	19	3:16	9:38	15:26		21:30	F	19	2:50	9:40	15:37	22:20
	F	20	3.9	3.0	4.1	1.1		Th	20	5.6	0.7	5.2		0.4	S	20	6.2	0.2	4.8	0.9
	S	21	4:05	9:38	15:26	21:52		F	21	3:40	10:06	16:02		21:57	M	21	3:30	10:16	16:18	22:00
	M	22	4.7	1.8	5.1	0.4		Tu	22	6.4	-0.1	5.8		0.0	Th	22	6.7	-0.6	5.0	0.0
	Tu	23	4:10	10:04	16:00	22:14		F	23	4:04	10:34	16:30		22:24	S	23	4:05	10:50	16:54	22:20
	W	24	5.6	0.8	5.7	0.0		S	24	7.0	-0.7	5.9		-0.1	M	24	7.2	-1.2	5.1	0.7
E	Th	25	4:25	10:32	16:28	22:34	C	S	25	4:28	10:58	17:00	22:45	D	Th	25	4:32	11:18	17:24	22:30
	F	26	6.3	0.0	6.3	-0.4		Tu	26	7.4	-1.0	5.8	0.0		W	26	7.4	-0.9	4.9	0.8
	S	27	4:42	10:55	16:54	22:57		S	27	4:47	11:22	17:20	23:00		Th	27	4:56	11:45	17:46	23:00
	M	28	6.8	-0.5	6.5	-0.6		M	28	7.6	-1.0	5.5	0.2		Th	28	7.5	-0.8	4.7	0.9
	Tu	29	5:00	11:17	17:15	23:12		W	29	5:05	11:43	17:36	23:14		W	29	5:18	12:05	18:05	23:20
	W	30	7.1	-0.9	6.5	-0.5		Th	30	7.6	-0.9	5.2	0.4		Th	30	7.4	-0.5	4.4	1.0
	Th	31	5:16	11:36	17:34	23:25		Tu	31	5:20	12:02	17:56	23:30		S	31	5:40	12:28	18:28	23:40
	F	1	7.3	-0.9	6.2	-0.3		W	1	7.6	-0.6	4.8	0.5		M	1	7.2	-0.3	4.3	1.1
	S	2	5:30	11:54	17:50	23:36		Th	2	5:40	12:25	18:12	23:44		Th	2	6:04	12:52	18:48	23:50
	M	3	7.4	-0.8	5.8	-0.1		W	3	7.5	-0.3	4.5	0.7		F	3	6.9	0.1	4.2	0.0
	Tu	4	5:42	12:10	18:05	23:50		Th	4	6:02	12:50	18:34	23:50		S	4	0:14	6:30	13:18	19:30
	W	5	7.5	-0.6	5.4	0.1		F	5	7.2	0.1	4.1	0.0		M	5	1.2	6.4	0.5	4.0
E	Th	6	6:00	12:33	18:20	23:54	D	Tu	6	0:08	6:26	13:18	19:00	E	S	6	0:50	7:00	13:46	20:00
	F	7	7.5	-0.4	5.0	0.0		W	7	0.9	6.7	0.7	3.8		Th	7	1.4	5.8	1.0	4.0
	S	8	0:05	6:20	12:57	18:40		Th	8	0:32	6:50	13:48	19:45		M	8	1:30	7:36	14:15	21:10
	M	9	0.2	7.2	0.1	4.5		S	9	1.3	5.9	1.3	3.4		W	9	2.0	4.8	1.5	4.0
	Tu	10	0:26	6:44	13:26	19:02		Tu	10	0:54	7:18	14:30	20:00		Th	10	2:26	8:30	15:00	22:54
	W	11	0.5	6.7	0.7	4.0		W	11	2.0	4.9	2.1	0.0		Th	11	2.6	3.9	2.1	4.0
	Th	12	0:42	7:04	14:00	19:15		Th	12	6:25	19:58	19:58	19:58		W	12	4:32	11:16	16:27	22:00
	F	13	1.0	6.0	1.5	3.3		F	13	3.9	2.2	2.2	0.0		M	13	3.1	3.3	2.7	0.0
	S	14	0:45	7:08	14:16	17:20		Tu	14	2:52	9:00	14:12	20:40		Th	14	0:42	9:04	14:34	20:00
	M	15	1.7	5.1	2.4	2.8		W	15	4.1	2.4	3.8	1.8		S	15	4.5	1.8	3.5	2.4
	Tu	16	0:00	6:05	21:15	21:30		Th	16	2:54	9:23	15:10	21:10		F	16	2:10	9:38	15:45	20:50
	W	17	2.2	4.2	1.6	0.0		F	17	4.7	1.5	4.5	1.4		S	17	5.3	0.9	3.8	2.0
E	M	18	4:10	9:25	15:00	21:30	P	Th	18	3:14	9:50	15:50	21:35	N	S	18	3:05	10:11	16:25	21:40
	Tu	19	4.3	2.5	4.3	0.9		W	19	5.6	0.5	5.0	0.9		Th	19	6.0	0.1	4.1	1.6
	W	20	3:55	9:46	15:35	21:54		Th	20	3:40	10:15	16:22	22:02		S	20	3:45	10:48	16:58	22:10
	Th	21	5.1	1.3	5.2	0.5		F	21	6.4	-0.3	5.2	0.7		M	21	6.5	-0.3	4.3	1.4
	F	22	4:02	10:10	16:10	22:14		S	22	4:05	10:46	16:50	22:24		W	22	4:20	11:15	17:25	22:40
	S	23	5.8	0.4	5.8	0.2		Th	23	7.0	-0.7	5.2	0.6		Th	23	6.9	-0.5	4.4	1.2
	Th	24	4:20	10:40	16:40	22:36		S	24	4:30	11:12	17:12	22:40		S	24	4:48	11:40	17:45	23:00
	F	25	6.4	-0.3	6.1	-0.1		Tu	25	7.2	-0.8	5.0	0.6		M	25	7.1	-0.5	4.4	1.1
	S	26	4:36	11:00	17:00	22:52		W	26	4:48	11:34	17:28	22:57		W	26	5:10	11:58	18:00	23:30
	M	27	6.9	-0.8	6.0	0.0		Th	27	7.4	-0.7	4.7	0.7		Th	27	7.1	-0.4	4.4	1.0
	Tu	28	4:52	11:20	17:20	23:03		N	28	5:08	11:54	17:42	23:12		S	28	5:30	12:16	18:16	23:40
	W	29	7.2	-0.9	5.7	0.1		Tu	29	7.5	-0.5	4.5	0.7		M	29	7.1	-0.2	4.5	1.0
Th	30	5:07	11:40	17:35	23:15	W	30					Th	30	5:54	12:36	18:38	23:50			
F	31	7.4	-0.8	5.4	0.2	Th	31					F	31	6.9	-0.2	4.7	0.0			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is 1.0 foot above the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height increased by 1.0 foot to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cosmopolitan Standard, 135th meridian, E.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
N	F	1	0:02 13.6	6:27 2.3	12:40 12.9	18:50 1.8	N	M	1	1:42 13.7	8:20 2.0	14:27 12.3	20:47 2.3	N	M	1	6:30 3.0	13:00 11.3	19:08 8.8	. . .									
	S	2	1:09 14.3	7:35 1.8	13:45 13.1	19:59 1.5		Tu	2	2:40 14.0	9:27 1.1	15:23 12.6	21:48 1.5		Tu	2	1:19 12.8	7:53 2.7	14:15 11.7	20:31 8.2									
	S	3	2:05 14.8	8:43 1.1	14:38 13.3	21:00 1.1		W	3	3:28 14.4	10:20 0.4	16:08 13.0	22:38 0.9		W	3	2:23 13.1	9:07 1.8	15:14 12.3	21:37 2.1									
	M	4	2:53 15.1	9:42 0.3	15:25 13.5	21:57 0.6	O	Th	4	4:10 14.7	11:03 -0.2	16:43 13.3	23:20 0.5	Th	4	3:16 13.6	10:01 0.8	15:57 12.9	22:26 1.1										
	Tu	5	3:37 15.3	10:29 -0.3	16:10 13.7	22:45 0.4		F	5	4:48 14.7	11:40 -0.5	17:13 13.7	23:57 0.5		F	5	3:59 14.1	10:44 0.0	16:30 13.5	23:05 0.4									
	W	6	4:18 15.4	11:12 -0.6	16:46 13.7	23:27 0.5		S	6	5:17 14.8	12:12 -0.5	17:40 14.1	. . .		S	6	4:35 14.4	11:20 -0.5	16:57 14.1	23:40 0.1									
	A	Th	7	4:23 15.3	11:50 -0.6	17:18 13.7	. . .	A	S	7	0:27 0.7	5:44 14.8	12:41 -0.4	18:03 14.5	C	S	7	5:04 14.6	11:51 -0.7	17:22 14.7	. . .								
		F	8	0:03 0.8	5:24 15.1	12:25 -0.3	17:47 13.8		M	8	0:56 0.9	6:08 15.2	13:08 0.1	18:26 15.0		M	8	0:09 0.1	5:28 15.0	12:20 -0.5	17:43 15.2								
		S	9	0:39 1.3	5:52 14.8	12:59 0.0	18:15 13.9		Tu	9	1:20 1.3	6:32 15.3	13:30 0.7	19:52 15.5		Tu	9	0:36 0.2	5:50 15.2	12:42 0.1	18:05 15.8								
		E	S	10	1:10 1.8	6:18 14.9	13:28 0.6	18:41 14.2	E	W	10	1:42 1.7	7:00 15.4	13:52 1.3	19:27 15.7	W	10	0:57 0.5	6:12 15.5	13:02 0.6	18:27 16.3								
			M	11	1:38 2.4	6:49 14.8	13:58 1.1	19:17 14.3		Th	11	2:10 1.9	7:36 15.2	14:13 1.7	20:08 15.5		Th	11	1:16 1.1	6:36 15.8	13:18 1.3	18:57 16.6							
			Tu	12	2:07 2.8	7:24 14.5	14:29 1.7	19:59 14.2		F	12	2:46 1.9	8:17 14.5	14:47 2.1	20:55 14.6		F	12	1:42 1.1	7:08 15.8	13:37 1.5	19:33 16.4							
			C	W	13	2:42 3.0	8:08 13.9	15:02 2.3	20:50 13.7	C	S	13	3:32 2.2	9:10 13.3	15:30 2.8	21:54 13.4	S	13	2:17 1.1	7:48 15.3	14:13 1.9	20:16 15.6							
				Th	14	3:28 3.1	9:00 18.0	15:42 2.9	21:53 13.0		S	14	4:28 2.9	10:18 11.9	16:26 3.8	23:12 12.3		S	14	2:58 1.6	8:34 14.1	14:58 2.6	21:07 14.2						
				F	15	4:24 3.4	10:06 12.0	16:32 3.5	23:07 12.5		M	15	5:48 3.5	12:00 11.0	17:52 4.7	. . .		M	15	3:52 2.3	9:37 12.5	15:47 8.7	22:16 12.5						
S				S	16	5:32 3.6	11:34 11.2	17:41 4.1	. . .	S	Tu	16	0:42 12.4	7:22 3.5	13:36 11.4	19:52 4.4	S	Tu	16	5:08 3.2	11:20 11.1	17:16 4.8	. . .						
				S	17	0:21 12.6	6:51 8.5	13:01 11.3	19:08 4.2		W	17	1:57 13.2	8:43 2.7	14:38 12.4	21:12 3.0		W	17	0:03 11.9	6:44 8.5	13:10 11.4	19:24 4.5						
				M	18	1:28 13.1	8:08 9.0	14:05 11.9	20:27 3.5		Th	18	2:55 14.0	9:47 1.3	15:23 13.4	22:11 1.6		Th	18	1:33 12.7	8:13 2.8	14:18 12.5	20:53 3.0						
				P	Tu	19	2:25 13.9	9:18 2.2	14:56 12.7	21:32 2.7	P	F	19	3:43 14.9	10:37 0.0	16:13 14.5	22:58 0.5	F	19	2:37 13.7	9:21 1.3	15:10 13.8	21:50 1.4						
					W	20	3:13 14.6	10:17 1.0	15:43 13.4	22:24 1.7		S	20	4:27 15.6	11:20 -1.1	16:54 15.5	23:42 -0.5		S	20	3:28 14.7	10:12 -0.1	15:54 15.1	22:38 0.0					
					Th	21	3:57 15.3	10:55 0.1	16:25 14.2	23:12 0.9		S	21	5:08 16.2	12:01 -1.7	17:34 16.2	. . .		S	21	4:11 15.6	10:57 -1.2	16:29 16.2	23:22 -1.1					
	D				● F	22	4:38 15.8	11:40 -0.8	17:05 14.8	23:54 0.4	D	M	22	0:20 -1.0	5:48 16.8	12:40 -1.9	18:11 16.8	E	M	22	4:53 16.3	11:37 -1.8	17:12 17.2	. . .					
					S	23	5:18 16.1	12:18 -1.1	17:46 15.3	. . .		Tu	23	1:00 -1.0	6:26 16.8	13:17 -1.5	18:47 16.9		Tu	23	0:00 -1.6	5:29 16.9	12:15 -1.9	18:48 17.5					
					S	24	0:35 0.4	5:58 16.4	12:58 -1.2	18:25 15.7		W	24	1:40 -0.8	7:04 16.3	13:56 -0.8	19:30 16.5		W	24	0:38 -1.7	6:07 16.7	12:54 -1.5	18:23 17.4					
		E			M	25	1:16 0.2	6:38 16.3	13:39 -1.0	19:08 15.8	E	Th	25	2:20 -0.1	7:48 15.4	14:38 0.1	20:17 15.6	Th	25	1:16 -1.3	6:42 16.2	13:30 -0.6	19:00 16.9						
					Tu	26	1:58 0.4	7:24 15.8	14:22 -0.4	19:57 15.4		F	26	3:10 0.7	8:40 14.0	15:23 1.5	21:14 14.4		F	26	1:56 -0.6	7:21 15.3	14:08 0.3	19:42 15.9					
					W	27	2:45 0.8	8:16 14.8	15:07 0.3	20:54 14.7		S	27	4:02 1.7	9:48 12.5	16:22 2.7	22:28 13.1		S	27	2:40 0.4	8:07 14.0	14:53 2.0	20:33 14.5					
			D		Th	28	3:37 1.3	9:18 13.7	15:58 1.3	22:00 14.0	D	S	28	5:10 2.5	11:23 11.5	17:38 3.7	23:55 12.5	N	S	28	3:33 1.6	9:08 12.5	15:50 3.3	21:41 12.9					
					F	29	4:38 2.0	10:34 12.6	17:00 2.2	23:17 13.4		M	29	4:37 2.6	10:41 11.2	17:08 4.2	23:13 11.8		M	29	4:37 2.6	10:41 11.2	17:08 4.2	23:13 11.8					
					S	30	5:48 2.4	12:05 12.1	18:15 2.8	. . .		Tu	30	5:54 3.2	12:30 11.0	18:36 4.5	. . .		Tu	30	5:54 3.2	12:30 11.0	18:36 4.5	. . .					
N					S	31	0:35 13.4	7:04 2.4	13:22 12.1	19:33 2.8	N						W	31	0:48 12.1	7:18 3.2	13:50 11.4	20:05 3.8							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Burma Standard for the meridian, 97° 30' E. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	1:57 12.5	8:35 2.4	14:47 12.2	21:12 2.5					A	S	1	2:15 12.7	8:43 1.9	14:45 13.2	20:22 2.1						Tu	1	2:55 12.8	9:28 1.8	15:10 14.4	22:01 1.4				
	F	2	2:58 13.1	9:30 1.3	15:28 13.1	22:01 1.4					S	2	3:00 13.1	9:32 1.1	15:20 13.9	22:04 1.2						W	2	3:30 13.3	10:10 1.7	15:45 14.8	22:41 1.6					
	S	3	3:37 13.6	10:13 0.4	16:00 13.7	22:40 0.6					E	M	3	3:36 13.5	10:13 0.7	15:51 14.5	22:40 0.6						Th	3	4:04 13.5	10:49 1.8	16:18 15.1	23:19 0.7				
	S	4	4:10 14.0	10:50 -0.2	16:29 14.5	23:14 0.1					Tu	4	4:06 13.7	10:48 0.5	16:19 15.1	23:14 0.3						O	F	4	4:35 18.7	11:27 1.8	16:48 15.5	23:55 0.7				
	E	M	5	4:40 14.3	11:23 -0.3	16:53 15.1	23:45 0.0				O	W	5	4:35 14.2	11:20 0.7	16:45 15.4	23:44 0.3						S	5	5:09 14.0	11:59 2.4	17:19 15.5					
O	Tu	6	5:08 14.8	11:52 -0.1	17:17 15.6						Th	6	5:00 14.4	11:47 1.2	17:11 15.7							S	S	6	5:30 0.7	12:42 14.2	17:34 2.5	17:54 15.5				
	W	7	5:10 0.0	12:15 0.5	17:40 16.1						F	7	5:11 0.6	12:12 11.6	17:38 16.1							M	7	5:59 0.6	13:11 14.4	18:03 2.8	18:35 15.5					
	Th	8	5:34 0.3	12:34 1.4	18:02 16.5						S	8	5:41 0.7	12:35 14.8	18:10 16.2							Tu	8	6:49 0.9	13:59 14.3	18:59 2.9	19:25 15.6					
	F	9	5:56 0.8	12:48 1.5	18:31 16.8						S	9	6:14 0.9	13:01 15.0	18:48 16.0							W	9	7:36 1.0	14:53 13.8	19:59 2.8	20:24 14.2					
	S	10	6:22 0.9	13:12 1.6	19:07 16.5						S	M	10	6:51 1.2	13:44 14.6	19:38 15.3							Th	10	8:29 1.3	15:54 13.4	21:28 2.7	21:53 13.3				
S	S	11	6:58 1.1	13:47 1.5	19:50 16.7						Tu	11	7:28 1.5	14:39 13.9	20:29 14.2							C	F	11	9:26 1.4	17:03 13.4	23:01 2.7	23:26 12.9				
	M	12	7:38 1.6	14:15 1.4	20:41 14.3						W	12	8:34 2.0	15:02 12.7	21:47 12.8							E	S	12	10:30 1.5	18:12 13.7						
	Tu	13	8:35 2.3	14:42 1.2	21:52 12.7						C	Th	13	9:40 2.4	15:28 12.3	23:22 12.3							S	13	11:30 13.3	19:25 1.5						
	W	14	9:49 3.0	15:07 1.1	23:40 11.9							F	14	10:54 2.3	16:02 12.9								M	14	12:41 13.7	20:32 1.2						
	Th	15	10:17 3.1	15:29 1.2								S	15	12:08 18.1	17:08 1.7	18:29 13.9	19:54 2.1							Tu	15	1:19 13.9	21:40 0.9					
P	F	16	11:12 12.8	7:40 2.4	13:55 13.1	20:26 2.6					E	S	16	1:51 13.9	8:14 1.0	14:20 14.9	20:55 1.0							W	16	3:05 14.1	9:39 0.6	15:53 13.8	22:16 -0.1			
	S	17	2:17 13.8	8:48 1.1	14:48 14.3	21:24 1.1					P	M	17	2:43 14.4	9:11 0.3	15:04 15.7	21:48 0.0							Th	17	3:50 14.2	10:30 0.5	16:06 13.8	23:08 -0.4			
	S	18	3:07 14.7	9:43 -0.1	15:32 15.5	22:14 -0.2					Tu	18	3:28 14.9	10:01 -0.2	15:46 16.4	22:34 -0.7							F	18	4:33 14.1	11:16 0.5	16:43 15.7	23:46 -0.5				
	M	19	3:50 15.4	10:30 -0.9	16:10 16.5	22:57 -1.2					W	19	4:09 15.3	10:48 -0.4	16:24 16.6	23:18 -1.0						N	S	19	5:11 14.0	11:59 1.0	17:21 15.4					
	Tu	20	4:30 16.1	11:11 -1.4	16:47 17.0	23:37 -1.6					Th	20	4:48 15.2	11:30 -0.2	17:00 16.5								S	20	5:27 -0.3	12:46 13.7	17:40 1.4	17:54 15.0				
N	W	21	5:07 16.3	11:51 -1.2	17:23 17.3						F	21	5:00 -1.0	12:00 15.0	17:35 16.2								M	21	6:06 0.1	13:25 13.5	18:21 2.0	18:47 14.7				
	Th	22	5:44 -1.6	12:30 16.0	18:00 -0.6	17.2					N	S	22	5:40 -0.7	12:50 14.5	18:09 1.1	18:09 15.8							Tu	22	6:59 0.5	13:55 13.5	19:01 2.5	19:25 14.3			
	F	23	6:20 -1.1	13:07 15.5	18:33 0.2	16.7					S	23	6:27 -0.1	13:31 14.0	18:48 1.7	18:48 15.2							W	23	7:45 1.0	14:42 13.2	19:55 2.8	20:20 13.6				
	S	24	6:57 -0.4	13:47 14.8	19:13 1.4	15.8					M	24	7:19 0.6	14:16 13.5	19:23 2.7	19:23 14.3							Th	24	8:39 1.6	15:30 12.9	20:30 3.2	20:54 12.9				
	S	25	7:40 0.5	14:30 13.8	20:00 2.6	14.4					Tu	25	8:11 1.3	15:06 12.7	20:26 3.3	20:26 13.2						A	F	25	9:44 2.1	16:20 12.6	21:21 8.5	21:45 12.1				
D	M	26	8:08 1.5	15:25 12.5	21:01 8.5	12.9					W	26	8:38 2.0	16:06 11.9	21:38 3.9	21:38 12.0							S	26	10:51 2.5	17:19 12.6	22:11 8.6	22:31 11.0				
	Tu	27	9:02 2.4	16:02 11.3	22:28 4.3	11.6					D	Th	27	9:44 2.6	16:46 11.6	22:06 4.1	22:06 11.5							S	27	11:59 8.0	18:20 12.7	23:01 8.5				
	W	28	10:15 3.1	16:45 11.1							A	F	28	10:37 2.9	17:26 12.0								M	28	12:56 11.7	19:25 3.3	20:26 13.1	20:50 4.2				
	Th	29	11:05 11.7	17:31 3.1	18:05 11.6	4.1					S	29	11:26 11.9	18:07 2.8	19:30 12.6	19:30 3.5							Tu	29	1:25 11.9	20:35 3.3	21:28 13.6	21:52 4.2				
	F	30	12:07 12.2	18:22 2.7	19:01 12.5	3.2					E	S	30	12:26 12.3	18:54 2.5	20:29 13.3	20:29 2.7							W	30	2:14 12.2	21:33 3.0	22:21 14.0	22:45 4.2			
											M	31	2:13 12.5	8:39 2.2	14:35 13.9	21:19 2.0																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Burma Standard, for the meridian 97° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾ 1st quar.; ○, full moon; ☾ 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
C	Th 1	2:58	9:33	15:15	22:11	C	S 1	4:04	10:51	16:16	23:18	E	W 1	5:07	11:57	17:24	...
	F 2	12.7	2.7	14.5	1.5		M 2	4:45	11:34	16:58	...		Th 2	0:14	5:46	12:36	18:01
	S 3	3:38	10:24	15:58	22:55		Tu 3	4:30	11:1	15.4	...		F 3	0:53	6:24	13:16	18:39
	S 4	4:17	11:09	16:31	23:37		W 4	0:00	5:25	12:17	17:38		S 4	1:33	7:02	14:00	19:23
	M 5	13.8	2.4	14.8	0.9		Th 5	0:40	6:07	13:00	18:18		M 6	0:4	6:5	0.0	15.4
P	Tu 6	0:17	5:37	12:30	17:45	C	F 6	1:21	6:46	13:41	19:01	C	Tu 7	2:15	7:50	14:45	20:13
	W 7	0.2	14.1	1.9	15.4		S 7	0:06	15.7	0.6	15.7		W 8	0.5	15.7	0.6	14.2
	Th 8	0:59	6:18	13:12	18:27		M 9	2:03	7:34	14:25	19:51		Th 9	3:00	8:47	15:40	21:19
	F 9	0.2	14.4	1.7	15.4		Tu 10	0:4	15.6	0.7	15.1		F 10	1.5	14.6	1.5	12.8
	S 10	1:40	7:03	13:59	19:17		W 11	2:46	8:28	15:14	20:49		S 11	4:00	9:58	16:46	22:51
E	Tu 11	0.2	14.7	1.7	15.2	N	Th 12	0.2	15.2	1.0	14.2	E	W 12	2.5	13.4	2.2	11.8
	W 12	2:25	7:59	14:46	20:13		F 13	3:34	9:29	16:10	22:00		Th 13	5:12	11:25	18:00	...
	Th 13	0.2	14.5	1.6	14.6		S 14	0.9	14.5	1.5	13.2		F 14	3.8	12.7	2.5	...
	F 14	3:11	9:00	15:40	21:18		M 15	4:30	10:40	17:13	23:21		S 15	0:30	6:35	12:50	19:19
	S 15	0.5	14.3	1.7	13.8		Tu 16	1.7	13.9	1.9	12.4		Th 16	11.6	3.5	13.1	2.3
C	M 16	4:03	10:08	16:39	22:35	N	W 17	5:36	11:55	18:25	...	E	Th 17	1:45	7:56	13:55	20:32
	Tu 17	0.9	14.1	1.8	13.2		Th 18	2.4	13.6	2.0	...		F 18	12.1	3.0	13.6	1.6
	W 18	5:00	11:17	17:43	23:51		F 19	0:44	6:52	13:08	19:40		S 19	2:41	9:05	14:49	21:31
	Th 19	1.4	14.0	1.9	18.0		S 20	12.3	2.7	14.0	1.9		Th 20	12.6	2.0	14.0	0.6
	M 20	6:04	12:25	18:51	...		Tu 21	1:52	8:08	14:06	20:50		F 21	3:30	9:58	15:35	22:18
P	Tu 21	1.7	14.3	1.8	...	A	W 22	12.5	2.4	14.3	1.3	E	Th 22	13.4	1.0	14.5	—0.2
	W 22	1:02	7:11	13:28	20:00		Th 23	2:50	9:14	15:00	21:50		S 23	4:06	10:40	16:13	22:58
	Th 23	13.1	1.8	14.7	1.4		F 24	12.9	1.8	14.5	0.6		Th 24	13.9	0.3	14.7	—0.7
	F 24	2:02	8:20	14:21	21:05		S 25	3:39	10:10	15:48	22:38		W 25	4:37	11:19	16:45	23:31
	S 25	13.2	1.7	14.9	0.9		M 26	13.2	1.1	14.6	—0.1		Th 26	14.5	—0.1	14.7	—0.7
N	Tu 26	2:56	9:23	15:10	22:02	A	W 27	4:21	10:57	16:25	23:19	E	F 27	5:03	11:50	17:11	...
	W 27	13.2	1.4	15.0	0.4		Th 28	13.5	0.6	14.7	—0.4		S 28	0:01	5:26	12:20	17:34
	Th 28	3:44	10:20	15:54	22:51		F 29	4:55	11:38	17:00	23:55		Th 29	—0.4	15.2	0.3	15.0
	F 29	13.4	1.0	15.1	—0.1		S 30	13.7	0.5	14.7	—0.5		F 30	0:29	5:49	12:45	17:57
	S 30	4:26	11:09	16:34	23:35		Tu 31	5:25	12:13	17:31	...		S 31	0.2	15.5	0.8	15.0
C	Tu 31	13.4	0.9	15.0	—0.3	A	W 32	0:28	5:51	12:45	17:59	E	Th 32	0:46	6:09	13:05	18:18
	W 32	5:04	11:50	17:11	...		Th 33	—0.3	14.3	0.9	14.8		F 33	1.3	15.9	1.4	15.1
	Th 33	0:14	5:39	12:29	17:45		F 34	0:58	6:17	13:15	18:22		S 34	1:00	6:36	13:26	18:48
	F 34	—0.2	13.5	1.2	14.5		S 35	0.2	14.6	1.3	14.8		Th 35	2.0	16.2	1.7	15.2
	S 35	0:50	6:10	13:06	18:15		Tu 36	1:24	6:40	13:39	18:49		W 36	1:20	7:10	14:00	19:25
P	Tu 36	0.0	13.6	1.5	14.4	A	W 37	0.8	15.1	1.7	14.9	E	Th 37	2.2	16.0	1.7	14.9
	W 37	1:25	6:40	13:41	18:46		Th 38	1:47	7:13	14:05	19:21		F 38	1:46	7:52	14:40	20:16
	Th 38	0.4	13.8	2.0	14.5		F 39	1.5	15.3	2.1	14.8		S 39	2.5	15.3	2.0	13.8
	F 39	1:57	7:14	14:13	19:21		S 40	2:10	7:51	14:39	20:05		Th 40	2:30	8:43	15:35	21:11
	S 40	0.9	14.1	2.3	14.2		M 41	2.1	15.2	2.2	14.2		W 41	3.0	14.2	2.7	12.5
E	Tu 41	2:29	7:55	14:47	20:04	D	W 42	2:41	8:37	15:21	20:50	E	Th 42	3:27	9:49	16:49	22:55
	W 42	1.5	14.1	2.7	13.8		Th 43	2.5	14.5	2.4	13.3		F 43	3.9	12.6	3.3	11.1
	Th 43	3:08	8:43	15:26	20:51		F 44	3:16	9:34	16:16	21:59		S 44	4:54	11:32	18:16	...
	F 44	1.8	13.5	2.8	13.2		S 45	3.0	13.6	2.8	12.0		Th 45	4.8	11.8	3.3	...
	S 45	3:40	9:40	16:15	21:53		Tu 46	4:10	10:44	17:26	23:33		F 46	0:45	6:54	13:06	19:40
C	Tu 46	2.5	13.4	3.0	12.3	D	W 47	3.8	12.5	3.3	11.2	E	Th 47	11.4	4.5	12.6	2.7
	W 47	4:20	10:45	17:11	23:08		Th 48	5:25	12:13	18:49	...		F 48	1:54	8:19	14:10	20:47
	Th 48	3.2	13.0	3.1	11.6		F 49	4.5	12.3	3.3	...		S 49	12.6	3.1	13.7	1.4
	F 49	5:13	11:51	18:18	...		S 50	1:08	7:13	13:29	20:08		Th 50	2:44	9:20	15:00	21:40
	S 50	3.8	12.6	3.3	...		Tu 51	11.4	4.4	13.0	2.8		W 51	13.9	1.7	14.7	0.2
P	Tu 51	0:27	6:26	12:59	19:31	A	W 52	2:11	8:38	14:29	21:14	E	Th 52	3:27	10:10	15:45	22:26
	W 52	11.4	4.2	13.1	3.1		Th 53	12.2	3.5	13.8	1.7		F 53	15.0	0.3	15.6	—0.9
	Th 53	1:36	7:50	13:58	20:41		F 54	3:01	9:40	15:19	22:08		S 54	4:08	10:53	16:24	23:09
	F 54	11.7	4.0	13.5	2.6		S 55	13.3	2.2	14.6	0.5		Th 55	16.3	—0.6	16.2	—1.5
	S 55	2:30	9:01	14:50	21:42		Tu 56	3:48	10:31	16:01	22:54		F 56	4:44	11:33	17:01	23:46
C	Tu 56	12.3	3.3	14.0	1.8	D	W 57	4:29	11:15	16:43	23:35	E	Th 57	17.1	—1.3	16.8	—1.4
	W 57	3:20	10:01	15:35	22:33		Th 58	15.3	0.1	15.8	—1.0		F 58	...	...	...	...
	Th 58	13.0	2.5	14.6	0.9		F 59	...	...	...	...		S 59	...	...	...	...
	F 59	...	...	...	...		S 60	...	...	...	...		Th 60	...	...	...	...
	S 60	...	...	...	...		Tu 61	...	...	...	...		W 61	...	...	...	...

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Burma Standard, for the meridian 97° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st. quar.; ○, full moon; ☾, 3d. quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.																								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.																					
	W.	Mo.					W.	Mo.					W.	Mo.																						
N C	F	1	5:21 17.5	12:11 —1.3	17:39 16.6	N C	M	1	0:39 0.5	6:06 16.9	13:11 —0.5	18:30 14.9	E A	W	1	1:06 1.7	6:25 15.6	13:40 0.3	18:54 13.9																	
	S	2	0:25 —0.9	5:57 17.5	12:51 —1.0		18:18 16.1	E A	Tu	2	1:20 1.5	6:46 16.0		13:56 0.5	19:11 13.9	E A	Th	2	1:51 2.5	7:07 14.7	14:26 1.1	19:44 13.0														
	S	3	1:04 —0.1	6:32 17.0	13:33 —0.4		18:54 15.3		E A	W	3	2:09 2.5		7:30 14.6	14:49 1.5		20:09 12.5	E A	F	3	2:44 3.2	7:59 13.4	15:16 1.9	20:50 12.0												
	M	4	1:44 1.0	7:14 16.1	14:19 0.5		14:40 14.0			E A	Th	4		3:05 3.6	8:30 13.0		15:49 2.4		21:35 11.2	E A	S	4	3:45 3.8	9:05 12.1	16:15 2.5	22:20 11.5										
	Tu	5	2:30 2.2	8:05 14.6	15:12 1.6		20:41 12.5				E A	F		5	4:20 4.2		10:00 11.5		16:58 2.9		23:30 11.1	E A	S	5	4:51 4.1	10:40 11.3	17:19 2.8	23:48 11.8								
	W	6	3:30 3.8	9:12 13.0	16:18 2.5		22:19 11.2					E A		S	6		5:34 4.4		11:47 11.6		18:11 3.0		24:44 11.6	E A	M	6	6:00 4.0	12:10 11.7	18:25 2.9	24:59 11.8						
	Th	7	4:50 4.0	10:50 11.9	17:33 3.0		23:55 11.9							E A	S		7		6:52 11.9		13:05 4.0		19:21 2.4		25:58 12.4	E A	Tu	7	7:13 12.4	13:15 8.5	19:35 12.1	26:09 12.5				
	F	8	0:11 11.2	6:12 4.2	12:27 12.4		18:58 2.7								E A		M		8		1:49 12.9		8:09 2.8		14:01 13.0		20:22 1.5	E A	W	8	1:45 13.3	8:15 2.7	14:01 12.4	20:25 2.0		
	S	9	1:30 12.0	7:37 8.5	13:36 13.0		20:05 1.9										E A		Tu		9		2:31 13.8		9:02 1.6		14:46 13.5		21:10 0.6	E A	Th	9	2:27 14.0	9:08 1.8	14:46 12.8	21:15 1.6
	S	10	2:25 13.0	8:45 2.2	14:32 13.6		21:03 0.7												E A		W		10		3:08 14.6		9:46 0.7		15:24 13.9		21:53 0.2	E A	F	10	3:05 14.6	9:51 1.1	15:19 13.1	21:59 1.4
M	11	3:08 13.8	9:36 1.0	15:16 14.2	21:49 —0.1	E A	Th						11								3:39 15.1		10:24 0.2		15:55 14.1		22:30 0.1		E A		S		11	3:35 15.0	10:30 0.7	15:55 13.5	22:32 1.4
Tu	12	3:39 14.3	10:17 0.1	15:54 14.5	22:28 —0.6		E A	F					12			4:07 15.5					10:57 0.0		16:21 14.4		23:01 0.5		E A				S		12	4:10 15.0	11:07 0.4	16:26 13.7	23:11 1.5
W	13	4:11 15.0	10:54 —0.2	16:24 14.6	23:08 —0.5			E A	S				13			4:32 15.6		11:28 0.1			16:45 14.4		23:30 1.1		E A						M		13	4:37 15.4	11:40 0.4	16:56 14.0	23:44 2.0
Th	14	4:36 15.4	11:24 —0.3	16:47 14.9	23:31 —0.1				E A	S			14			4:55 15.8		11:55 0.4		17:10 14.5	23:50 2.3		E A								Tu		14	5:05 15.5	12:11 0.5	17:26 14.3	24:00 2.1
F	15	4:59 15.7	11:54 0.0	17:09 14.8	23:55 0.7					E A	M		15			5:19 15.9		12:21 0.9		17:35 14.6	24:11 2.2	E A									W		15	5:10 15.7	12:45 1.0	17:45 14.5	24:20 2.2
S	16	5:20 16.0	12:18 0.5	17:30 14.9	24:00 0.8						E A	Tu	16			5:46 16.7		12:49 1.3		17:56 14.8	24:31 2.3			E A							Th		16	5:40 16.0	13:20 1.5	18:09 14.7	24:45 2.4
S	17	0:13 1.8	6:41 16.3	12:39 1.1	17:53 15.0							E A	W	17		6:20 17.0		13:22 1.6		18:14 14.7	24:44 2.4					E A					F		17	1:21 8.0	6:51 15.6	14:04 1.2	19:28 14.4
M	18	0:20 2.4	6:07 16.4	13:01 1.5	18:20 15.2								E A	Th	18	1:01 3.2		7:00 15.5		14:04 2.0	19:31 14.1							E A			S		18	2:10 3.1	7:43 14.8	14:50 1.5	20:29 13.8
Tu	19	0:40 2.5	6:40 16.3	13:31 1.6	18:59 14.9									E A	F	19	1:56 8.6	7:50 14.6		14:58 2.4	20:36 13.0									E A	S		19	3:09 3.1	8:43 13.8	15:44 1.9	21:44 13.2
W	20	1:12 2.7	7:20 15.5	14:12 2.0	19:45 14.0										E A	S	20	3:05 4.1	8:56 13.2	16:03 2.7	22:10 12.1										E A	M	20	4:15 3.1	10:05 12.7	16:45 2.1	23:07 13.2
Th	21	1:58 3.3	8:10 14.4	15:10 2.7	20:47 12.6	E A										S	21	4:34 4.2	10:34 12.0	17:19 2.6	23:47 12.5								E A			Tu	21	5:31 2.9	11:35 12.5	17:55 2.2	24:15 13.3
F	22	3:05 4.2	9:15 12.8	16:20 3.3	22:30 11.2		E A									M	22	6:05 3.5	12:12 12.5	18:35 2.1	24:44 13.4						E A					W	22	6:21 13.7	12:54 2.5	18:54 13.0	24:45 13.5
S	23	4:44 4.8	11:00 11.6	17:49 3.2	23:55 11.9			E A								Tu	23	1:00 13.6	7:21 2.5	13:24 13.5	19:41 1.3				E A							Th	23	1:26 14.6	7:56 1.7	13:56 13.5	20:12 1.3
S	24	0:21 11.7	6:34 4.1	12:42 12.5	19:09 2.4				E A							W	24	1:55 14.8	8:26 1.1	14:19 14.3	20:40 0.5		E A									F	24	2:19 15.3	8:59 0.7	14:46 14.0	21:14 0.7
M	25	1:31 13.0	7:54 2.7	13:50 13.7	20:16 1.2					E A						Th	25	2:40 15.8	9:20 0.1	15:05 14.9	21:33 —0.2	E A										S	25	3:05 15.8	9:52 —0.1	15:32 14.4	22:06 0.3
Tu	26	2:23 14.5	8:54 1.2	14:40 14.7	21:11 0.0						E A					F	26	3:22 16.7	10:08 —0.8	15:46 15.6	22:20 —0.5			E A								S	26	3:49 16.2	10:41 —0.8	16:15 14.5	22:55 0.2
W	27	3:05 15.7	9:44 —0.1	15:24 15.5	21:58 —0.9							E A				S	27	4:02 17.1	10:52 —1.3	16:25 15.6	23:04 —0.5					E A						M	27	4:28 16.3	11:25 —1.1	16:55 14.6	23:40 0.2
Th	28	3:45 16.8	10:29 —1.1	16:04 16.2	22:40 —1.2								E A			Th	28	4:39 17.1	11:34 —1.3	17:01 15.4	23:45 0.1							E A				Tu	28	5:05 16.1	12:07 —1.0	17:31 14.4	24:11 14.5
F	29	4:21 17.4	11:09 —1.5	16:40 16.4	23:20 —1.2									E A		M	29	5:15 16.8	12:15 —1.1	17:39 15.0	24:11 15.0									E A		W	29	5:41 16.8	12:46 —0.7	18:06 14.3	24:43 14.3
S	30	4:57 17.5	11:50 —1.5	17:17 16.2	24:00 15.7										E A	Tu	30	5:27 0.7	12:58 16.8	18:19 —0.5	24:44 14.4										E A	Th	30	1:00 1.2	6:14 15.3	13:25 —0.1	18:43 14.0
S	31	0:01 —0.5	5:31 17.4	12:30 —1.2	17:54 15.7	E A																														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 7 1/2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Burma Standard, for the meridian 97° 30' E: 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N O	F	1	8:05 2.3	9:05 7.9	15:40 1.8	22:00 8.4					M	1	5:42 2.5	11:13 7.6	18:08 2.1	23:40 8.9	N	M	1	3:10 3.0	9:15 6.7	15:53 3.0	22:18 7.7									
	S	2	4:45 2.4	10:30 8.1	17:18 1.7	23:05 9.1					N	Tu	2	6:56 1.6	12:02 8.0	19:15 1.3		Tu	2	5:12 2.8	10:57 7.1	17:45 2.5	23:26 8.3									
	S	3	6:10 1.8	11:30 8.4	18:32 1.4	23:50 9.7					W	3	0:20 9.5	7:47 0.7	12:40 8.3	20:02 0.8	W	3	6:32 1.9	11:57 7.7	18:52 1.6											
	M	4	7:12 1.1	12:07 8.6	19:30 1.0					Th	4	0:58 9.8	8:32 0.1	13:15 8.5	20:45 0.5	Th	4	0:12 9.1	7:27 0.9	12:32 8.2	19:42 0.8											
	Tu	5	0:30 10.0	8:02 0.5	12:45 8.8	20:20 0.6				O	F	5	1:31 10.1	9:14 -0.1	13:43 8.7	21:27 0.3	F	5	0:47 9.6	8:12 0.2	13:15 8.7	20:26 0.4										
	W	6	1:05 10.3	8:48 0.1	13:20 8.8	21:04 0.4				S	6	2:00 10.2	9:50 -0.1	14:08 8.9	22:02 0.5	S	6	1:17 9.9	8:50 -0.2	13:30 9.0	21:07 0.2											
	Th	7	1:38 10.3	9:30 0.0	13:48 8.8	21:45 0.6				S	7	2:25 10.4	10:23 0.1	14:34 9.3	22:35 1.1	A	S	7	1:44 10.1	9:26 -0.2	13:53 9.4	21:40 0.2										
	F	8	2:07 10.5	10:06 0.1	14:17 8.9	22:20 1.1				A	M	8	2:50 10.5	10:54 0.6	15:01 9.6	23:02 1.3	M	8	2:08 10.4	10:02 0.0	14:16 9.8	22:12 0.5										
	S	9	2:35 10.4	10:44 0.4	14:45 8.9	22:50 1.5				Tu	9	3:22 10.6	11:18 0.9	15:33 9.8	23:21 1.5	E	Tu	9	2:31 10.6	10:30 0.5	14:42 10.2	22:40 1.0										
	S	10	3:05 10.5	11:17 0.8	15:18 9.0	23:20 1.7				E	W	10	3:53 10.7	11:32 1.2	16:10 9.9	23:23 1.7	W	10	2:57 10.8	10:52 0.9	15:12 10.6	22:58 1.3										
A	M	11	3:38 10.4	11:44 1.2	15:54 9.1	23:42 1.9			Th	11	4:30 10.4	11:37 1.3	16:50 9.8	23:38 1.7	Th	11	3:27 10.8	10:57 1.2	15:45 10.7	22:55 1.5												
Tu	12	4:16 10.2	12:04 1.5	16:35 9.1	23:56 2.1				F	12	5:10 9.9	11:52 1.3	17:35 9.4		F	12	4:08 10.6	11:00 1.3	16:24 10.5	23:18 1.7												
E	W	13	4:56 9.8	12:16 1.7	17:20 8.8				C	S	13	0:10 2.0	5:55 9.0	12:33 1.5	18:27 8.7	S	13	4:42 10.1	11:13 1.3	17:07 10.0	23:40 1.9											
C	Th	14	0:14 2.8	5:42 9.1	12:40 1.8	18:10 8.4			S	14	1:05 2.4	6:50 8.0	13:20 2.0	19:38 8.1	S	14	5:25 9.2	11:55 1.6	17:54 9.2													
F	15	1:05 2.5	6:35 8.4	13:26 1.9	19:16 8.0				M	15	1:48 2.9	8:17 7.2	14:06 2.4	21:28 8.0	C	M	15	0:30 2.2	6:16 8.2	12:52 2.2	18:57 8.3											
S	16	1:46 2.8	7:48 7.7	14:02 2.2	20:50 7.9				Tu	16	2:44 3.4	10:11 7.1	15:00 2.7	22:56 8.5	S	Tu	16	1:32 2.8	7:32 7.1	13:47 2.7	20:42 7.8											
S	17	2:28 3.1	9:30 7.3	14:44 2.4	22:20 8.4				S	W	17	4:03 3.4	11:20 7.8	16:26 2.8	23:50 9.5	W	17	2:35 3.2	9:45 7.0	14:53 3.0	22:36 8.2											
M	18	3:20 3.4	10:45 7.6	15:30 2.6	23:20 9.2				Th	18	7:38 1.7	12:08 8.7	19:54 1.5		Th	18	6:08 2.8	11:10 7.8	17:31 2.5	23:36 9.8												
Tu	19	7:08 2.5	11:35 8.2	19:22 2.1					F	19	0:34 10.4	8:25 0.7	12:52 9.5	20:38 0.6	F	19	7:10 1.6	11:56 8.9	19:28 1.3													
S	W	20	0:05 10.0	8:00 1.6	12:22 8.9	20:12 1.4			●	S	20	1:15 11.1	9:04 0.0	13:30 10.2	21:17 0.2	S	20	0:20 10.3	7:58 0.5	12:38 9.8	20:15 0.4											
Th	21	0:43 10.6	8:44 0.9	13:00 9.5	20:50 0.9				P	S	21	1:53 11.6	9:42 -0.5	14:08 10.7	21:55 -0.3	P	S	21	0:59 11.0	8:40 -0.2	13:15 10.7	20:57 -0.3										
●	F	22	1:28 11.2	9:27 0.3	13:42 9.9	21:38 0.4			M	22	2:30 11.8	10:18 -0.8	14:44 11.1	22:32 -0.4	●	M	22	1:35 11.5	9:18 -0.6	13:50 11.2	21:35 -0.4											
P	S	23	2:06 11.6	10:00 0.0	14:20 10.2	22:14 0.2			E	Tu	23	3:05 11.8	10:52 -0.7	15:22 11.1	23:06 -0.2	E	Tu	23	2:08 11.7	9:58 -0.6	14:24 11.5	22:10 -0.5										
S	24	2:45 11.8	10:40 -0.2	15:00 10.4	22:50 0.1				W	24	3:43 11.5	11:26 -0.3	16:00 10.8	23:42 0.2	W	24	2:42 11.6	10:29 -0.4	14:59 11.5	22:47 -0.1												
M	25	3:24 11.6	11:14 -0.4	15:40 10.4	23:28 0.3				Th	25	4:22 10.8	12:00 0.2	16:42 10.3		Th	25	3:17 11.3	11:02 -0.1	15:35 11.2	23:22 0.4												
E	Tu	26	4:04 11.2	11:50 -0.1	16:22 10.1				F	26	0:17 0.9	5:08 9.9	12:32 0.8	17:27 9.5	F	26	3:53 10.6	11:35 0.6	16:13 10.6	23:58 1.0												
W	27	0:02 0.6	4:45 10.6	12:25 0.3	17:10 9.6				D	S	27	0:53 1.6	5:48 8.7	13:08 1.6	18:20 8.4	S	27	4:32 9.7	12:10 1.2	16:54 9.8												
D	Th	28	0:42 1.1	5:32 9.7	13:02 0.8	18:00 8.9			S	28	1:42 2.4	6:48 7.4	14:13 2.5	19:45 7.5	D	S	28	0:37 1.7	5:15 8.6	12:48 2.0	17:43 8.6											
F	29	1:20 1.7	6:28 8.6	13:46 1.5	19:10 8.2									N	M	29	1:24 2.5	6:08 7.3	13:46 2.8	18:48 7.5												
S	30	2:22 2.3	7:45 7.6	14:50 2.1	21:15 7.9									Tu	30	2:42 3.0	7:41 6.3	15:22 3.2	22:00 7.3													
S	31	3:55 2.8	9:54 7.3	16:36 2.4	22:36 8.3									W	31	4:38 2.9	10:43 6.9	17:42 2.9	23:02 7.9													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian $82^{\circ}30'$ E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.							
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				
	W.	Mo.						W.	Mo.						W.	Mo.					
A	Th	1	5:58	11:38	18:22	23:54	A	S	1	6:12	11:43	18:40	23:54	O	Tu	1	7:06	12:00	19:38		
			2.2	7.6	2.2	8.8			1.7	8.5	1.7	8.9				1.7	9.8	1.6			
	F	2	6:54	12:15	19:14		E	S	2	7:00	12:08	19:25			W	2	0:12	7:52	12:31	20:22	
			1.2	8.4	1.2				1.6	9.2	1.1					9.3	1.6	10.7	1.4		
	S	3	0:25	7:40	12:42	20:00		M	3	0:20	7:46	12:35	20:08		Th	3	0:44	8:33	13:04	21:02	
E			9.3	0.5	9.0	0.6			9.4	0.8	9.7	0.9			9.6	1.5	10.8	1.2			
	S	4	0:58	8:22	13:07	20:40		Tu	4	0:48	8:25	13:02	20:48	S	F	4	1:11	9:10	13:34	21:40	
			9.7	0.1	9.5	0.4			9.7	0.8	10.3	0.9				9.8	1.4	11.2	1.4		
	M	5	1:18	8:58	13:30	21:12	W	5	1:10	9:00	13:27	21:24	S		5	1:45	9:46	14:07	22:17		
			10.1	0.2	9.9	0.5			10.0	1.1	10.8	1.0				9.9	1.7	11.4	1.4		
C	Tu	6	1:42	9:30	13:52	21:48	Th	6	1:36	9:34	13:55	21:56	S		6	2:20	10:20	14:45	22:54		
C			10.3	0.4	10.4	0.7			10.2	1.3	11.2	1.3			9.9	1.7	11.4	1.4			
	W	7	2:05	10:00	14:18	22:16	F	7	2:05	10:00	14:25	22:27	M	7	3:00	10:58	15:25	23:30			
			10.5	0.9	10.9	1.2			10.8	1.6	11.3	1.6				9.8	1.8	11.1	1.6		
	Th	8	2:30	10:24	14:48	22:38	S	8	2:37	10:05	15:00	22:35		Tu	8	3:40	11:28	16:10			
			10.7	1.3	11.1	1.4			10.3	1.7	11.3	1.7				9.5	1.9	10.6			
F	9	3:02	10:28	15:20	22:45	S	9	3:15	10:20	15:40	23:23	W		9	0:05	4:24	12:10	16:56			
S			10.7	1.4	11.2	1.6			10.1	1.8	11.0	1.8			1.6	9.1	2.0	9.9			
	S	10	3:36	10:32	16:00	22:52	S	M	10	3:54	10:40	16:22	23:54	Th	10	0:48	5:25	12:52	17:55		
			10.5	1.5	10.9	1.8			9.6	2.0	10.4	2.0			1.6	8.4	2.1	9.1			
	S	11	4:15	10:40	16:40	23:30	Tu	11	4:42	11:42	17:10		C	F	11	1:34	6:32	13:56	19:10		
			9.9	1.6	10.3	2.0			8.9	2.2	9.6				1.7	7.8	2.3	8.4			
M	12	5:00	11:34	17:29		W	12	0:35	5:36	12:46	18:10	E		S	12	2:31	8:26	15:02	21:38		
		9.1	1.9	9.4				2.2	8.1	2.5	8.6				1.6	7.8	2.3	8.2			
C	Tu	13	0:17	5:52	12:38	18:30	Th	13	1:37	6:52	14:05			19:42	S	13	3:40	9:57	16:30	22:21	
		2.8	8.1	2.4	8.4			2.3	7.8	2.7	8.0			1.6	8.5	2.2	8.6				
W	14	1:32	7:08	13:54	20:10	F	14	3:58	9:12	15:35	21:46		M	14	5:04	10:56	17:54	23:17			
Th			2.6	7.2	2.9	7.8			2.2	7.5	2.6	8.2		1.4	9.5	1.7	9.1				
	Th	15	2:46	9:27	15:15	22:11	S	15	4:28	10:30	17:15	22:55	Tu	15	6:17	11:40	18:58	23:55			
			2.9	7.1	3.0	8.1			2.0	8.5	2.2	9.0			1.2	10.1	1.1	9.4			
	F	16	5:24	10:58	17:58	23:20	E	S	16	5:50	11:22	18:25		23:38	W	16	7:15	12:17	19:50		
			2.6	8.1	2.4	9.1			1.4	9.5	1.4	9.7			0.8	10.6	0.6				
S	17	6:34	11:44	19:00		P	M	17	6:50	11:58	19:20			Th	17	0:32	8:06	12:53	20:40		
S			1.6	9.3	1.2				0.8	10.4	0.7			9.6	0.7	10.9	0.4				
	S	18	0:00	7:25	12:20	19:45	Tu	18	0:14	7:40	12:35	20:10	●	F	18	1:06	8:52	13:25	21:24		
			10.1	0.7	10.2	0.5			10.3	0.4	11.0	0.3			9.6	0.7	10.9	0.4			
	M	19	0:38	8:10	12:56	20:32	W	19	0:50	8:25	13:07	20:54		S	19	1:40	9:35	14:00	22:05		
			10.7	0.1	11.0	0.0			10.5	0.3	11.3	0.1			9.4	0.9	10.9	0.5			
Tu	20	1:12	8:50	13:28	21:10	Th	20	1:23	9:10	13:40	21:37	S		20	2:10	10:14	14:31	22:45			
W			11.1	-0.3	11.5	-0.2			10.5	0.4	11.5	0.3		9.2	1.1	10.7	0.7				
	W	21	1:45	9:27	14:00	21:50	F	21	1:55	9:48	14:14	22:16	M	21	2:42	10:54	15:05	23:21			
			11.2	-0.1	11.7	-0.3			10.3	0.9	11.3	0.4			9.0	1.5	10.5	1.0			
	Th	22	2:17	10:05	14:34	22:30	S	22	2:25	10:26	14:47	22:56		Tu	22	3:20	11:30	15:42	23:56		
			11.1	0.2	11.6	0.2			9.9	1.3	11.1	0.9			8.8	2.0	10.2	1.5			
F	23	2:50	10:44	15:08	23:07	S	23	3:00	11:06	15:24	23:35	W		23	3:55	12:02	16:22				
S			10.8	0.7	11.3	0.6			9.4	1.6	10.6	1.3		8.5	2.1	9.7					
	S	24	3:24	11:18	15:45	23:45	M	24	3:37	11:42	16:02		Th	24	0:30	4:40	12:40	17:05			
			10.1	1.5	10.7	1.2			8.9	1.9	10.0			1.8	8.1	2.5	9.0				
	S	25	4:00	11:55	16:25		Tu	25	0:16	4:20	12:25	16:47	A	F	25	1:05	5:35	13:12	18:00		
			9.4	1.7	9.9				1.8	8.3	2.7	9.2			2.0	7.8	2.7	8.3			
M	26	0:28	4:45	12:38	17:10	W	26	1:00	5:10	13:08	17:38	S		26	1:38	6:37	14:08	19:09			
		1.9	8.3	2.5	8.9			2.2	7.6	2.8	8.3			2.3	7.4	8.0	7.7				
D	Tu	27	1:15	5:35	13:30	18:08	Th	27	1:46	6:10	14:05	18:48		S	27	2:23	8:07	14:48	20:45		
W			2.9	7.3	2.9	7.8			2.5	6.9	8.1	7.6	M		2.3	7.3	8.0	7.6			
	W	28	2:18	6:50	14:50	21:20	A	F	28	2:45	8:50	15:15		21:25	Th	28	3:05	9:44	16:10	22:15	
			2.8	6.4	3.3	7.1			2.6	6.6	3.2	7.3			2.4	7.9	8.1	7.7			
	Th	29	3:45	10:20	16:24	22:30	S	29	3:58	10:12	16:40	22:20		Tu	29	4:25	10:50	18:05	23:02		
			2.8	6.7	3.2	7.6			2.5	7.4	3.0	7.6			2.5	8.7	2.8	8.1			
F	F	30	5:08	11:00	17:40	23:16	E	S	30	5:12	10:55	17:52	23:11	W	30	6:20	11:30	19:05	23:42		
			2.4	7.7	2.5	8.3			2.3	8.3	2.5	8.3		2.4	9.4	2.3	8.6				
							M	31	6:15	11:32	18:50	23:42									
									1.9	9.1	2.0	8.8									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.								Moon.	Day of— W. Mo.	Time and Height of High and Low Water.								Moon.	Day of— W. Mo.	Time and Height of High and Low Water.							
☉	Th 1	7:20 1.8	12:06 10.1	20:00 1.7	23:58 11.3	☉	S 1	0:45 9.3	8:36 1.1	13:09 11.0	21:07 0.7	☉	W 1	1:49 10.9	9:33 -0.2	14:08 11.9	21:55 -0.4	☉	Th 2	2:33 11.2	10:10 -0.1	14:44 12.0	22:30 -0.4						
	F 2	0:20 9.1	8:10 1.6	12:45 10.6	20:45 1.3		M 2	1:23 9.7	9:16 0.8	13:47 11.5	21:45 0.3		F 3	3:00 11.4	10:44 0.0	15:20 11.7	23:03 -0.2												
	S 3	0:56 9.4	8:55 1.4	13:20 11.1	21:25 1.0		Tu 3	1:48 10.2	9:55 0.5	14:23 11.7	22:21 0.0		S 4	3:37 11.3	11:18 0.2	15:56 11.2	23:36 0.3												
	S 4	1:32 9.7	9:33 1.2	13:57 11.4	22:05 0.8		P W 4	2:38 10.5	10:33 0.4	15:02 11.7	22:56 0.0		S 5	4:15 10.7	11:53 0.9	16:37 10.2	23:58 0.1												
	M 5	2:08 9.8	10:12 1.0	14:35 11.5	22:40 0.8		Th 5	3:15 10.5	11:07 0.5	15:40 11.4	23:30 0.1		M 6	0:10 0.9	4:59 9.9	12:33 1.6	17:21 9.0												
☉	Tu 6	2:47 9.9	10:48 1.1	15:15 11.3	23:17 0.8	☉	E F 6	3:57 10.4	11:40 0.6	16:21 10.9	23:53 0.7	☉	☉ Tu 7	0:47 1.6	5:48 8.8	13:20 2.4	18:14 7.7	☉	W 8	1:41 2.4	6:57 7.7	14:42 2.9	19:47 6.5						
	W 7	3:30 9.7	11:26 1.2	15:57 11.0	23:53 0.7		S 7	0:04 0.4	4:42 10.0	12:18 1.0	17:05 10.0		N Th 9	3:20 3.0	10:05 7.5	16:40 2.8	22:43 7.0												
	Th 8	4:11 9.6	12:02 1.3	16:42 10.4	24:58 0.9		☉ S 8	0:40 0.8	5:32 9.2	13:00 1.6	17:56 9.0		F 10	5:14 2.6	11:10 8.3	18:02 1.9	23:45 7.9												
	F 9	0:30 0.8	5:07 9.0	12:42 1.5	17:33 9.6		M 9	1:20 1.4	6:32 8.5	13:50 2.2	19:02 7.9		S 11	6:26 1.6	12:02 9.2	19:00 0.9	23:58 0.1												
	S 10	1:10 1.0	6:05 8.6	13:27 1.8	18:35 8.7		Tu 10	2:18 2.0	8:07 7.9	15:10 2.6	21:11 7.2		S 12	0:24 8.5	7:20 0.7	12:35 9.8	19:48 0.1												
☉	S 11	1:57 1.3	7:22 8.2	14:30 2.1	20:00 8.0	☉	W 11	3:43 2.4	10:11 8.2	17:02 2.6	22:45 7.5	☉	☉ M 13	0:54 9.0	8:04 0.2	13:07 10.2	20:30 -0.3	☉	Tu 14	1:20 9.4	8:45 -0.1	13:34 10.4	21:06 -0.3						
	M 12	2:56 1.6	9:18 8.3	15:46 2.3	21:48 8.0		N Th 12	5:34 2.1	11:18 8.8	18:24 1.8	23:47 8.0		W 15	1:44 9.7	9:20 0.0	13:55 10.5	21:40 -0.1												
	Tu 13	4:20 1.8	10:27 8.9	17:27 2.1	23:00 8.3		F 13	6:45 1.4	12:07 9.5	19:23 0.8	23:53 0.7		E Th 16	2:05 10.0	9:55 0.4	14:16 10.7	22:10 0.4												
	W 14	5:52 1.6	11:28 9.6	18:40 1.5	23:47 8.6		S 14	0:24 8.5	7:40 0.8	12:44 10.0	20:10 0.2		F 17	2:27 10.4	10:22 1.0	14:40 10.8	22:36 1.0												
	Th 15	7:00 1.2	12:08 10.0	19:36 0.8	23:58 0.9		S 15	1:00 8.8	8:25 0.3	13:17 10.3	20:50 -0.2		S 18	2:52 10.7	10:45 1.3	15:06 10.8	22:45 1.8												
☉	N F 16	0:25 8.9	7:54 0.9	12:46 10.3	20:26 0.3	☉	☉ M 16	1:32 9.0	9:07 0.3	13:46 10.4	21:30 -0.2	☉	E Th 16	2:05 10.0	9:55 0.4	14:16 10.7	22:10 0.4	☉	W 15	1:44 9.7	9:20 0.0	13:55 10.5	21:40 -0.1						
	☉ S 17	1:00 8.9	8:38 0.7	13:21 10.5	21:11 0.1		Tu 17	1:58 9.2	9:48 0.3	14:12 10.5	22:12 0.1		F 17	2:27 10.4	10:22 1.0	14:40 10.8	22:36 1.0												
	S 18	1:35 8.9	9:23 0.7	13:52 10.5	21:51 0.1		W 18	2:22 9.4	10:17 0.8	14:38 10.6	22:38 0.5		S 18	2:52 10.7	10:45 1.3	15:06 10.8	22:45 1.8												
	M 19	2:08 8.9	10:05 0.8	14:22 10.6	22:30 0.4		Th 19	2:48 9.7	10:48 1.2	15:04 10.7	23:05 1.0		S 19	3:25 10.8	10:45 1.7	15:40 10.6	23:12 1.4												
	Tu 20	2:34 9.0	10:38 1.3	14:53 10.5	23:04 0.7		A E F 20	3:17 9.9	11:12 1.6	15:35 10.7	23:23 1.3		M 20	4:00 10.7	10:42 1.8	16:15 10.2	23:35 1.5												
☉	W 21	3:05 9.1	11:10 1.7	15:25 10.4	23:33 1.2	☉	S 21	3:50 10.0	11:22 1.8	16:10 10.4	23:24 1.5	☉	Tu 21	4:40 10.2	11:06 2.0	16:55 9.3	23:14 1.8	☉	W 22	5:24 9.3	11:55 2.4	17:45 8.3	23:58 0.1						
	Th 22	3:37 9.1	11:38 1.9	16:00 10.2	23:58 0.9		S 22	4:29 9.9	11:18 2.0	16:47 9.9	23:33 1.6		☉ W 22	5:24 9.3	11:55 2.4	17:45 8.3	23:58 0.1												
	F 23	0:00 1.5	4:18 9.1	12:02 2.0	16:39 9.8		M 23	5:12 9.5	11:48 2.2	17:30 9.0	23:53 1.6		s Th 23	0:15 2.3	6:20 8.3	13:10 2.9	18:48 7.2												
	S 24	0:18 1.7	5:01 8.9	12:15 2.3	17:22 9.2		☉ Tu 24	0:07 1.8	6:00 8.8	12:39 2.6	18:20 8.0		F 24	1:25 2.9	7:48 7.6	14:16 3.3	21:00 6.7												
	☉ S 25	0:32 1.8	5:50 8.4	12:46 2.6	18:12 8.4		W 25	1:01 2.2	7:04 8.0	13:35 3.1	19:35 7.1		S 25	2:35 3.1	10:05 7.8	17:36 3.1	22:58 7.4												
☉	M 26	1:10 2.1	6:48 8.0	13:45 2.8	19:15 7.7	☉	Th 26	1:50 2.6	8:50 7.7	14:35 3.4	21:45 6.9	☉	S 26	3:05 2.7	11:24 8.9	18:45 1.9	23:45 8.7	☉	M 27	7:05 1.5	12:05 10.1	19:34 0.9	23:58 0.1						
	Tu 27	1:53 2.2	8:13 7.8	14:24 8.1	20:53 7.2		S F 27	2:48 2.9	10:38 8.2	18:15 3.1	23:07 7.6		M 27	7:05 1.5	12:05 10.1	19:34 0.9	23:58 0.1												
	W 28	2:38 2.4	9:54 8.1	15:10 8.3	22:25 7.4		S 28	6:32 2.7	11:37 9.3	19:15 1.9	23:53 8.6		Tu 28	0:22 9.9	7:50 0.5	12:40 10.9	20:18 0.1												
	Th 29	3:19 2.6	11:04 8.9	15:42 2.8	23:20 8.0		S 29	7:30 1.6	12:18 10.2	20:08 0.9	23:53 8.6		☉ P W 29	1:00 10.8	8:30 -0.1	13:15 11.5	20:52 -0.4												
	F 30	4:37 2.5	11:48 9.7	19:38 1.9	23:58 0.9		M 30	0:35 9.5	8:15 0.8	12:57 11.0	20:45 0.3		E Th 30	1:32 11.5	9:12 -0.5	13:50 11.9	21:30 -0.5												
☉	S 31	0:05 8.7	7:50 1.8	12:30 10.4	20:24 1.4	☉	☉ Tu 31	1:12 10.2	8:55 0.2	13:34 11.6	21:20 -0.2	☉																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.: 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☉, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	2:04 11.9	9:46 —0.4	14:22 11.9	22:03 —0.4	N	M	1	2:50 11.9	10:48 0.4	15:06 10.4	22:55 0.9	W	1	3:10 11.1	11:16 0.9	15:25 9.3	23:25 1.7													
	S	2	2:38 12.0	10:24 —0.1	14:54 11.7	22:35 0.0	Tu	2	3:28 11.3	11:25 1.0	15:42 9.7	23:35 1.5	Th	2	3:48 10.5	11:58 1.3	16:06 8.8															
	S	3	3:12 11.8	11:00 0.2	15:30 11.0	23:10 0.4	W	3	4:05 10:4	12:08 1.6	16:20 8.8		F	3	4:05 2.1	12:40 9.7	16:50 1.7	16:50 8.0														
	M	4	3:48 11.2	11:36 0.9	16:08 10.1	23:48 1.2	Th	4	4:16 2.1	12:50 9.4	16:55 2.2	23:10 7.7	C S	4	4:52 2.5	13:17 8.8	17:25 2.1	17:25 7.3														
	Tu	5	4:30 10.2	12:18 1.6	16:48 9.0		C F	5	1:10 2.7	5:40 8.2	13:54 2.7	18:12 6.6	S	5	1:35 2.9	6:13 8.0	14:15 2.5	18:55 6.7														
	W	6	5:08 1.9	12:48 9.1	17:08 2.4	17:38 7.6	S	6	2:22 3.2	6:56 7.2	15:15 2.8	22:10 6.4	M	6	2:46 3.2	7:47 7.2	15:22 2.6	21:55 7.0														
	Th	7	1:24 2.7	6:10 7.8	14:20 2.9	18:50 6.8	S	7	3:52 3.2	10:20 7.3	16:40 2.4	22:54 7.4	E Tu	7	4:05 3.1	10:55 7.3	16:45 2.5	22:41 7.5														
	F	8	2:55 3.2	9:50 7.1	16:02 2.9	22:35 6.7	M	8	5:15 2.6	11:05 8.0	17:48 1.7	23:35 8.4	W	8	5:30 2.8	11:50 7.8	17:55 2.2	23:28 8.7														
	S	9	4:40 8.0	10:54 7.8	17:32 2.2	23:26 7.8	A Tu	9	6:30 1.8	11:50 8.7	18:44 1.1		Th	9	6:34 2.2	11:37 8.3	18:50 1.7	23:55 9.3														
	S	10	5:58 2.0	11:42 8.6	18:31 1.1		W	10	7:06 9.2	12:10 1.1	19:28 9.3	19:28 0.7	F	10	7:25 1.7	12:05 8.8	19:40 1.6															
	M	11	8:06 8.6	6:54 1.0	12:17 9.5	19:20 0.3	Th	11	8:30 9.7	7:52 0.7	12:40 9.6	20:10 0.6	S	11	8:25 9.9	8:12 1.2	12:38 9.1	20:22 1.5														
	Tu	12	9:34 9.3	7:40 0.3	12:45 9.8	20:00 0.0	F	12	9:56 10.2	8:34 0.7	13:05 9.8	20:48 0.8	S	12	9:56 10.5	8:50 1.2	13:06 9.4	21:02 1.4														
W	13	10:58 9.7	8:20 0.0	13:10 10.1	20:38 —0.1	S	13	11:18 10.7	9:10 0.8	13:30 9.9	21:12 1.3	● M	13	11:27 10.8	9:30 1.1	13:35 9.6	21:38 1.3															
● Th	14	1:22 10.2	8:56 0.2	13:32 10.3	21:14 0.2	S	14	1:45 11.0	9:48 1.0	13:52 10.1	21:20 1.5	S Tu	14	2:00 11.1	10:05 1.1	14:06 9.8	22:10 1.4															
F	15	1:43 10.6	9:33 0.4	13:54 10.5	21:44 0.7	M	15	2:15 11.3	10:15 1.5	14:22 10.2	21:10 1.8	W	15	2:32 11.3	10:40 1.3	14:32 9.9	22:40 1.6															
S	16	2:05 10.9	10:00 0.8	14:16 10.6	22:00 1.3	Tu	16	2:46 11.4	10:43 1.7	14:57 10.1	21:08 1.8	Th	16	3:10 11.3	11:14 1.4	15:22 9.8	23:10 1.5															
S	17	2:32 11.2	10:25 1.4	14:44 10.6	22:30 1.5	S W	17	3:22 11.2	11:07 1.8	15:34 9.8	21:28 1.8	F	17	3:50 11.0	11:47 1.4	16:05 9.6	23:45 1.9															
M	18	3:02 11.3	10:30 1.7	15:15 10.5	22:50 1.5	Th	18	4:00 10.8	11:30 2.0	16:15 9.3	22:50 2.1	S	18	4:33 10.5	12:16 1.4	16:55 9.1																
Tu	19	3:38 11.1	10:20 1.8	15:50 10.1	23:55 1.6	F	19	4:46 10.1	12:04 2.1	17:06 8.6	23:58 2.4	S	19	5:18 1.9	13:22 9.8	17:57 1.5	17:50 8.4															
W	20	4:16 10.6	10:45 2.0	16:32 9.4	22:40 2.0	D S	20	5:36 10.0	12:50 2.3	18:08 7.7		D M	20	6:02 2.1	14:00 8.9	18:40 1.7	19:03 8.0															
S Th	21	5:00 9.7	11:42 2.4	17:22 8.4	23:50 2.5	S	21	6:28 2.8	14:48 8.2	19:10 2.3	19:38 7.2	K Tu	21	7:14 2.4	15:40 8.2	19:40 1.8	20:55 8.0															
D F	22	5:52 8.7	12:50 2.7	18:20 7.8		M	22	7:25 2.9	15:38 7.8	19:25 2.3	21:50 7.9	W	22	8:18 2.5	16:30 8.1	20:00 1.9	22:18 8.7															
S	23	1:16 3.0	7:08 7.8	14:18 3.0	20:15 6.8	E Tu	23	8:25 2.7	16:20 8.3	17:10 1.9	23:00 9.0	Th	23	9:12 2.4	17:48 8.4	20:10 1.8	23:20 9.5															
S	24	2:40 3.2	9:34 7.7	16:35 2.8	22:30 7.7	W	24	9:57 2.0	17:18 9.1	18:20 1.3	23:42 10.0	F	24	10:00 1.8	18:58 8.8																	
M	25	5:24 2.7	11:00 8.6	18:04 1.9	23:25 8.9	P Th	25	6:56 1.2	11:58 9.8	19:18 0.7		S	25	7:00 10.2	19:32 1.0	22:18 9.3	19:40 1.0															
Tu	26	6:34 1.6	11:44 9.7	18:58 0.9		F	26	8:18 10.8	7:48 0.5	12:34 10.3	20:05 0.4	S	26	8:40 10.7	20:00 0.5	22:58 9.5	20:35 0.7															
E W	27	9:02 10.1	7:22 0.7	12:20 10.6	19:46 0.2	O S	27	9:55 11.3	8:35 0.1	13:08 10.5	20:48 0.3	C N	27	11:16 10.9	19:08 0.2	23:52 9.5	21:20 0.6															
P Th	28	10:38 11.0	8:08 0.1	12:55 11.2	20:25 —0.3	S	28	11:28 11.6	9:15 0.1	13:42 10.4	21:30 0.5	Tu	28	11:52 11.0	19:50 0.1	24:05 9.5	22:00 0.7															
O F	29	11:12 11.7	8:50 —0.4	13:28 11.4	21:05 —0.2	M	29	12:02 11.7	9:58 0.1	14:16 10.2	22:09 0.9	W	29	12:25 11.0	20:28 0.2	24:36 9.3	22:40 1.1															
S	30	1:45 12.0	9:30 —0.4	14:00 11.3	21:44 0.0	N Tu	30	12:34 11.5	10:37 0.3	14:50 9.7	22:47 1.3	Th	30	13:00 10.9	21:05 0.5	25:13 9.1	23:15 1.3															
S	31	2:18 12.0	10:06 0.0	14:32 11.0	22:17 0.4							F	31	13:34 10.6	21:44 0.8	25:50 9.0	23:45 1.8															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82°30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.
 ●, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N O	F	1	3:58 2.3	10:21 0.6	17:11 2.3	23:39 1.0				M	1	1:06 1.0	6:19 2.0	12:00 0.7	18:57 2.5			N	M	1	4:46 1.8	10:30 0.9	17:35 2.2						
	S	2	5:12 2.3	11:24 0.5	18:16 2.4				N	Tu	2	2:05 0.9	7:21 2.1	12:55 0.6	19:40 2.7				Tu	2	1:14 1.1	6:35 1.9	11:51 0.9	18:44 2.7					
	S	3	0:51 0.9	6:16 2.3	12:16 0.4	19:04 2.7				W	3	2:44 0.8	8:09 2.2	13:40 0.4	20:16 2.8				W	3	2:01 0.9	7:35 2.1	12:55 0.7	19:30 2.6					
	M	4	1:46 0.8	7:11 2.3	13:08 0.8	19:45 2.8				Th	4	3:11 0.7	8:44 2.3	14:19 0.8	20:48 3.0				Th	4	2:32 0.7	8:13 2.2	13:38 0.6	20:03 2.7					
	Tu	5	2:30 0.7	7:56 2.3	13:44 0.2	20:20 3.0			O	F	5	3:38 0.6	9:11 2.3	14:53 0.8	21:14 3.0				F	5	2:54 0.6	8:41 2.3	14:16 0.4	20:31 2.8					
	W	6	3:06 0.6	8:34 2.3	14:23 0.2	20:56 3.1				S	6	3:48 0.5	9:33 2.4	15:23 0.3	21:41 3.1				S	6	3:06 0.5	9:08 2.4	14:46 0.4	20:54 2.9					
	Th	7	3:35 0.6	9:07 2.3	14:59 0.2	21:27 3.2				S	7	4:04 0.4	9:57 2.5	15:50 0.8	22:08 3.1			O	S	7	3:19 0.4	9:20 2.5	15:11 0.3	21:21 2.9					
	F	8	4:00 0.6	9:35 2.3	15:31 0.2	22:00 3.1			A	M	8	4:25 0.3	10:23 2.5	16:16 0.4	22:37 3.0				M	8	3:35 0.2	9:39 2.7	15:35 0.3	21:48 3.0					
	S	9	4:25 0.5	10:05 2.3	16:02 0.3	22:31 3.1				Tu	9	4:51 0.2	10:53 2.6	16:45 0.4	23:08 2.9			E	Tu	9	4:00 0.1	10:04 2.8	16:01 0.3	22:10 2.9					
	S	10	4:51 0.5	10:35 2.3	16:31 0.5	23:03 3.0			E	W	10	5:22 0.2	11:22 2.6	17:20 0.5	23:36 2.7				W	10	4:21 0.1	10:31 2.9	16:30 0.3	22:34 2.9					
A	M	11	5:24 0.5	11:13 2.3	17:02 0.6	23:38 2.8			Th	11	5:55 0.3	12:01 2.6	17:56 0.7					Th	11	4:49 0.1	11:00 2.9	17:00 0.4	23:02 2.8						
Tu	12	6:01 0.5	11:51 2.2	17:35 0.8					F	12	6:04 2.6	6:32 0.4	12:50 2.5	18:33 0.8				F	12	5:21 0.2	11:37 2.9	17:30 0.5	23:31 2.6						
E	W	13	0:14 2.6	6:44 0.5	12:35 2.2	18:21 0.9			C	S	13	0:36 2.3	7:20 0.5	13:50 2.4	19:27 1.0				S	13	5:58 0.3	12:21 2.8	18:11 0.6						
C	Th	14	0:54 2.4	7:28 0.6	13:33 2.2	19:18 1.1				S	14	1:20 2.1	8:18 0.7	15:05 2.3	20:47 1.2				S	14	6:06 2.4	6:37 0.5	13:15 2.6	19:06 0.8					
F	15	1:36 2.2	8:19 0.7	14:45 2.2	20:25 1.2				M	15	2:25 1.9	9:31 0.8	16:30 2.4	22:50 1.2			C	M	15	6:48 2.2	7:31 0.7	14:20 2.4	20:20 1.0						
S	16	2:29 2.1	9:22 0.7	16:06 2.2	22:10 1.3				Tu	16	4:18 1.9	10:55 0.7	17:48 2.5				S	Tu	16	1:58 1.9	8:50 0.9	15:47 2.4	22:11 1.1						
S	17	3:43 2.0	10:29 0.6	17:20 2.4	23:53 1.2			S	W	17	0:26 1.0	6:01 2.0	12:09 0.5	18:48 2.3				W	17	4:05 1.8	10:29 0.8	17:12 2.5	23:53 0.9						
M	18	5:08 2.0	11:33 0.5	18:21 2.6					Th	18	1:25 0.7	7:09 2.3	13:09 0.2	19:38 3.1				Th	18	5:56 2.1	11:53 0.6	18:20 2.7							
Tu	19	0:59 1.0	6:19 2.1	12:30 0.3	19:11 2.9				F	19	2:09 0.4	8:01 2.6	14:00 0.0	20:21 3.3				F	19	0:53 0.6	7:00 2.4	12:56 0.3	19:13 2.9						
W	20	1:46 0.7	7:16 2.3	13:24 0.1	19:56 3.2			●	S	20	2:46 0.1	8:46 2.8	14:47 -0.1	21:04 3.5				S	20	1:39 0.3	7:48 2.7	13:39 0.1	19:59 3.2						
Th	21	2:26 0.5	8:06 2.5	14:10 0.0	20:40 3.4			P	S	21	3:23 -0.1	9:29 3.0	15:31 -0.2	21:46 3.5				P	S	21	2:16 0.0	8:30 3.0	14:34 -0.1	20:44 3.4					
●	F	22	3:06 0.3	8:51 2.6	14:56 -0.1	21:23 3.5			M	22	4:01 -0.2	10:10 3.1	16:11 -0.1	22:28 3.4			●	M	22	2:56 -0.3	9:10 3.2	15:15 -0.1	21:25 3.4						
P	S	23	3:45 0.1	9:37 2.7	15:40 -0.1	22:03 3.5		E	Tu	23	4:40 -0.2	10:52 3.1	16:55 0.0	23:09 3.3			E	Tu	23	3:29 -0.3	9:51 3.3	15:56 -0.2	22:04 3.3						
S	24	4:24 0.0	10:22 2.8	16:23 0.0	22:45 3.4				W	24	5:21 -0.2	11:31 3.0	17:40 0.2	23:50 3.0				W	24	4:15 -0.3	10:29 3.8	16:39 0.0	22:43 3.1						
M	25	5:05 0.0	11:10 2.8	17:07 0.1	23:28 3.3				Th	25	6:04 0.1	12:19 2.8	18:25 0.5					Th	25	4:53 -0.1	11:08 3.2	17:18 0.2	23:21 2.9						
E	Tu	26	5:50 0.0	11:58 2.7	17:55 0.4				F	26	6:34 2.6	6:48 0.4	13:13 2.6	19:17 0.8				F	26	5:38 0.1	11:52 3.0	18:01 0.5							
W	27	0:14 3.0	6:37 0.2	12:48 2.5	18:48 0.6			D	S	27	1:25 2.2	7:43 0.6	14:21 2.3	20:44 1.2				S	27	0:04 2.5	6:17 0.4	12:45 2.7	18:56 0.8						
D	Th	28	1:05 2.7	7:30 0.4	13:47 2.4	19:55 0.9			S	28	2:40 1.9	8:51 0.9	15:54 2.2	23:35 1.3				D	S	28	0:54 2.1	7:08 0.7	13:46 2.5	20:17 1.1					
F	29	2:02 2.4	8:28 0.6	15:06 2.2	21:27 1.1												N	M	29	2:13 1.8	8:18 1.0	15:10 2.2	23:11 1.3						
S	30	3:17 2.1	9:37 0.7	16:35 2.2	23:31 1.2													Tu	30	5:00 1.7	10:00 1.1	16:51 2.2							
S	31	4:50 2.0	10:51 0.8	18:00 2.3														W	31	0:50 1.1	6:39 1.9	11:39 1.0	18:08 2.8						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
N C	F	1	0:45 13.6	6:40 -0.7	12:57 13.1	18:53 -2.0	N C	M	1	1:55 13.6	7:52 1.8	13:50 11.0	19:48 -1.3	C E A	W	1	2:27 13.0	8:33 2.8	14:20 9.6	20:10 -0.2									
	S	2	1:30 13.7	7:22 0.1	13:35 12.6	19:32 -1.8		Tu	2	2:42 12.8	8:40 2.8	14:32 10.0	20:30 -0.1		Th	2	3:10 12.1	9:22 3.3	15:08 8.6	20:55 1.3									
	S	3	2:12 13.2	8:08 1.2	14:12 11.6	20:15 -1.2		W	3	3:30 11.6	9:37 3.8	15:20 8.7	21:18 1.8		F	3	3:55 11.1	10:27 3.6	16:05 7.7	21:45 2.7									
	M	4	3:01 12.3	8:55 2.5	14:57 10.5	21:00 -0.1		Th	4	4:28 10.6	10:55 4.4	16:20 7.5	22:20 2.6		C	S	4	4:42 10.2	11:42 3.7	17:15 7.2	22:50 3.9								
	Tu	5	3:52 11.1	9:50 3.7	15:40 9.2	21:50 1.1		C	F	5	5:28 9.7	12:40 4.2	17:50 6.8			S	5	5:35 9.3	13:00 3.5	18:47 6.9									
	W	6	4:52 10.1	11:10 4.7	16:36 8.0	23:04 2.3		S	6	6:00 8.6	6:48 9.2	14:05 3.6	19:50 7.0		M	6	6:37 4.6	6:40 8.8	13:53 3.0	20:22 7.5									
	Th	7	6:10 9.3	13:17 4.8	18:10 7.0			S	7	1:42 8.9	8:08 9.1	15:00 3.0	21:13 7.9		E A	Tu	7	1:57 4.9	7:42 8.5	14:37 2.4	21:25 8.2								
	F	8	0:48 2.9	7:53 9.2	14:50 4.1	20:15 7.1		M	8	2:58 8.7	9:10 9.2	15:37 2.3	22:00 8.9		W	8	2:55 4.9	8:37 8.5	15:12 1.8	22:02 9.1									
	S	9	2:20 2.9	9:10 9.7	15:45 3.2	21:36 8.0		A E	Tu	9	3:45 3.5	9:48 9.5	16:05 1.5		22:35 9.7	Th	9	3:38 4.6	9:25 8.7	15:40 1.3	22:37 10.0								
	S	10	3:25 2.7	10:00 10.2	16:22 2.3	22:25 9.0		W	10	4:18 3.3	10:18 9.9	16:28 1.0	23:05 10.5		F	10	4:15 4.2	10:05 9.0	16:10 0.6	23:05 10.7									
E A ●	M	11	4:13 2.2	10:35 10.5	16:52 1.7	23:00 9.8	Th	11	4:47 2.9	10:50 10.1	16:52 0.5	23:35 11.0	S	11	4:52 3.8	10:42 9.2	16:40 -0.1	23:40 11.5											
	Tu	12	4:47 1.9	11:04 10.7	17:15 1.1	23:30 10.5	F	12	5:15 2.7	11:18 10.2	17:15 -0.1		S	12	5:27 3.5	11:18 9.5	17:12 -0.8												
	W	13	5:15 1.8	11:30 11.0	17:33 0.6		●	S	13	6:00 11.6	5:45 2.7	11:50 10.2	17:40 -0.6	●	M	13	6:13 12.2	6:03 3.3	11:57 9.8	17:47 -1.1									
	Th	14	0:00 11.0	5:42 1.6	11:56 11.1	17:52 0.2	S	14	6:32 12.0	6:15 2.7	12:15 10.2	18:10 -0.9	S	Tu	14	6:42 12.7	6:42 3.1	12:32 9.7	18:20 -1.3										
	F	15	0:28 11.3	6:05 1.7	12:20 11.0	18:15 -0.1	M	15	1:00 12.1	6:45 2.9	12:45 10.1	18:37 -0.9	W	15	1:25 12.9	7:20 3.0	13:10 9.7	19:00 -1.0											
	S	16	0:52 11.6	6:35 2.0	12:46 10.8	18:37 -0.4	Tu	16	1:35 12.2	7:20 3.1	13:17 9.6	19:10 -0.7	Th	16	2:05 12.8	8:00 3.0	13:55 9.5	19:40 -0.4											
	S	17	1:20 11.6	7:00 2.4	13:10 10.4	19:05 -0.3	S	W	17	2:15 11.9	8:00 3.6	13:52 9.3	19:45 -0.1	F	17	2:45 12.4	8:40 2.9	14:40 9.1	20:25 0.4										
	M	18	1:52 11.4	7:30 2.9	13:35 9.9	19:30 -0.1	Th	18	2:55 11.5	8:38 3.9	14:35 8.7	20:28 0.8	S	18	3:25 11.7	9:33 2.9	15:35 8.9	21:20 1.5											
	Tu	19	2:25 11.1	8:00 3.5	14:02 9.4	20:00 0.3	F	19	3:40 10.9	9:35 4.3	15:30 8.2	21:18 1.7	S	19	4:10 11.1	10:35 2.7	16:40 8.5	22:25 2.7											
	W	20	3:06 10.6	8:35 4.2	14:35 8.8	20:40 1.0	D	S	20	4:35 10.3	10:50 4.2	16:42 7.6	22:30 2.8	D	M	20	5:03 10.4	11:42 2.4	17:58 8.4	23:52 3.5									
	S	Th	21	3:52 10.0	9:25 4.8	15:22 8.0	21:30 1.9	S	21	5:38 9.8	12:25 3.6	18:20 7.7		E	Tu	21	6:08 9.8	12:50 1.9	19:15 8.8										
D	F	22	4:55 9.5	10:55 5.3	16:35 7.5	22:47 2.7	M	22	6:20 3.3	6:50 9.6	13:35 2.5	19:50 8.6	W	22	1:18 3.8	7:15 9.5	13:50 1.1	20:38 9.7											
P O	S	23	6:15 9.3	12:55 4.7	18:30 7.1		E	Tu	23	1:52 3.2	8:00 9.8	14:30 1.4	21:00 9.8	P	Th	23	2:32 3.7	8:22 9.6	14:47 0.2	21:45 10.8									
	S	24	0:42 2.9	7:42 9.6	14:15 8.4	20:20 8.0	W	24	3:00 2.6	9:00 10.4	15:18 0.2	22:00 11.2	F	24	3:38 3.6	9:25 9.9	15:40 -0.7	22:40 11.9											
	M	25	2:17 2.4	8:50 10.1	15:07 2.0	21:22 9.6	P	Th	25	3:52 2.0	9:55 10.9	16:02 -1.0	22:45 12.4	S	25	4:32 3.1	10:20 10.1	16:28 -1.5	23:27 12.8										
	Tu	26	3:20 1.6	9:40 10.9	15:52 0.6	22:15 11.1	F	26	4:42 1.6	10:40 11.3	16:45 -1.9	23:30 13.4	S	26	5:25 2.7	11:10 10.3	17:15 -1.8												
	W	27	4:12 0.8	10:25 11.8	16:32 -0.7	23:00 12.6	O	S	27	5:28 1.5	11:25 11.5	17:27 -2.5		O N	M	27	6:10 13.2	6:10 2.3	11:58 10.5	17:55 -1.9									
	Th	28	4:57 0.2	11:10 12.4	17:10 -1.8	23:45 13.6	S	28	6:12 14.0	6:12 1.5	12:08 11.4	18:08 -2.5	Tu	28	6:50 13.7	6:55 2.2	12:42 10.8	18:38 -1.5											
	F	29	5:40 0.1	11:50 12.6	17:50 -2.5		M	29	1:00 14.0	7:00 1.8	12:50 11.1	18:48 -2.1	W	29	1:30 13.6	7:40 2.2	13:25 10.2	19:17 -0.8											
	S	30	6:25 14.1	6:25 0.3	12:30 12.4	18:30 -2.6	N	Tu	30	1:42 13.7	7:45 2.3	13:33 10.5	19:30 -1.2	Th	30	2:10 13.1	8:20 2.3	14:10 9.7	19:55 0.1										
	S	31	1:12 14.1	7:07 1.0	13:10 11.9	19:07 -2.2								F	31	2:48 12.5	9:00 2.5	14:55 9.0	20:38 1.2										

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N	F	1	0:07 2.6	6:02 6.3	18:04 0.2	19:50 5.6				M	1	2:20 3.7	7:28 5.4	14:36 —0.4	22:00 6.2			N	M	1	0:44 4.0	5:40 4.9	13:06 0.6	20:53 5.7					
	S	2	1:20 3.2	6:58 6.1	14:03 —0.4	20:58 6.1			N	Tu	2	3:36 3.6	8:37 5.5	15:28 —0.6	22:41 6.7			Tu	2	2:38 4.0	7:21 4.9	14:17 0.5	21:48 6.4						
	S	3	2:30 3.4	7:55 6.1	14:51 —0.9	21:54 6.7			W	3	4:26 3.2	9:37 6.7	16:13 —0.7	23:16 7.3			W	3	3:46 3.3	8:39 4.9	15:14 0.3	22:25 6.8							
	M	4	3:30 3.3	8:48 6.1	15:39 —1.2	22:40 7.1			Th	4	5:06 3.0	10:24 5.8	16:51 —0.7	23:46 7.4			Th	4	4:24 2.8	9:37 5.2	16:00 0.2	22:51 7.0							
	Tu	5	4:21 3.3	9:40 6.1	16:21 —1.4	23:21 7.4			○	F	5	5:42 2.4	11:07 5.8	17:26 —0.6			F	5	4:54 2.2	10:24 5.6	16:36 0.1	23:16 7.2							
	W	6	5:05 3.0	10:26 6.1	17:00 —1.4				S	6	0:14 7.5	6:16 2.1	11:47 5.8	17:58 —0.4			S	6	5:21 1.6	11:02 5.8	17:10 0.1	23:42 7.3							
	Th	7	0:00 7.6	5:47 2.8	11:06 5.9	17:37 —1.2			S	7	0:40 7.5	6:45 1.8	12:21 5.7	18:26 —0.4			○	S	7	5:49 1.2	11:37 6.0	17:38 0.3							
	F	8	0:35 7.5	6:28 2.6	11:41 5.7	18:09 —0.9			A	M	8	1:04 7.4	7:16 1.5	12:53 5.6	18:51 0.3			E	M	8	0:08 7.3	6:14 0.9	12:08 6.2	18:05 0.5					
	S	9	1:04 7.5	7:06 2.5	12:23 5.5	18:40 —0.4			Tu	9	1:26 7.2	7:40 1.4	13:22 5.6	19:13 0.9			Tu	9	0:21 7.1	6:34 0.6	12:33 6.3	18:28 0.9							
	S	10	1:35 7.3	7:45 2.4	12:59 5.2	19:09 0.1			E	W	10	1:44 6.9	8:06 1.1	13:53 5.5	19:40 1.3			W	10	0:39 7.0	6:55 0.4	13:01 6.3	18:54 1.1						
	A	M	11	2:04 7.2	8:20 2.2	13:35 4.9	19:34 0.7			Th	11	2:02 6.8	8:35 1.0	14:31 5.3	20:10 1.8			Th	11	0:56 6.8	7:19 0.3	13:33 6.3	19:20 1.6						
E	Tu	12	2:33 6.8	8:56 2.1	14:18 4.7	20:00 1.3			F	12	2:23 6.5	9:09 1.0	15:20 5.1	20:41 2.5			F	12	1:17 6.6	7:45 0.2	14:13 6.1	19:48 2.2							
	W	13	2:56 6.5	9:36 1.9	15:06 4.5	20:38 2.0			○	S	13	2:50 6.2	9:51 0.9	16:34 4.9	21:28 3.2			S	13	1:41 6.4	8:15 0.1	14:59 5.8	20:21 2.8						
	Th	14	3:17 6.3	10:20 1.6	16:08 4.3	21:21 2.5			S	14	3:25 5.9	10:50 0.8	18:11 5.0	23:01 3.7			S	14	2:10 6.2	8:55 0.2	16:03 5.5	21:07 3.4							
	F	15	3:46 6.1	11:11 1.4	17:35 4.4	22:27 3.1			M	15	4:16 5.6	12:12 0.6	19:43 5.3			○	M	15	2:47 5.8	9:53 0.5	17:34 5.4	22:46 4.0							
	S	16	4:26 5.8	12:09 1.1	18:06 4.8				Tu	16	1:22 3.7	5:40 5.3	13:32 0.1	20:54 6.1			S	Tu	16	3:43 5.2	11:20 0.7	19:08 5.6							
	S	17	0:08 3.7	5:25 5.6	13:10 0.5	20:19 5.5			S	W	17	2:45 3.7	7:44 5.2	14:37 —0.4	21:47 6.9			W	17	1:13 3.9	5:24 4.8	13:01 0.6	20:21 6.2						
	M	18	1:51 3.7	6:41 5.5	14:06 —0.2	21:15 6.2			Th	18	3:42 3.0	9:01 5.6	15:34 —1.0	22:29 7.5			Th	18	2:29 3.2	7:45 5.0	14:17 0.2	21:13 6.8							
	Tu	19	2:58 3.6	8:00 5.7	15:00 —0.8	22:05 6.9			F	19	4:30 2.2	10:01 6.4	16:25 —1.4	23:09 8.1			F	19	3:23 2.2	9:01 5.8	15:18 —0.3	21:59 7.5							
	S	W	20	3:54 3.2	9:06 6.0	15:49 —1.5	22:51 7.6		●	S	20	5:15 1.3	10:55 6.8	17:11 —1.5	23:47 8.4			S	20	4:09 1.2	9:59 6.6	16:10 —0.5	22:38 7.9						
	Th	21	4:44 2.7	10:01 6.2	16:35 —1.8	23:31 8.1			P	S	21	5:56 0.6	11:45 7.2	17:55 —1.4			P	S	21	4:50 0.2	10:48 7.3	16:57 —0.7	23:14 8.1						
	●	F	22	5:30 2.2	10:54 6.5	17:20 —2.0				M	22	0:24 8.6	6:36 0.0	12:32 7.4	18:38 —0.9			●	M	22	5:28 —0.1	11:34 7.7	17:40 —0.5	23:49 8.2					
P	S	23	0:11 8.4	6:14 1.7	11:44 6.7	18:05 —1.8			E	Tu	23	1:00 8.3	7:15 —0.4	13:19 7.3	19:21 —0.1			E	Tu	23	6:05 —0.9	12:20 8.0	18:24 —0.2						
	S	24	0:52 8.5	7:00 1.2	12:35 6.7	18:50 —1.4			W	24	1:36 8.0	7:58 —0.6	14:10 7.0	20:06 0.7			W	24	0:24 8.1	6:44 —1.3	13:07 7.8	19:07 0.4							
	M	25	1:32 8.4	7:44 0.9	13:28 6.5	19:34 —0.6			Th	25	2:12 7.5	8:43 —0.3	15:06 6.4	20:56 1.6			Th	25	1:00 7.7	7:25 —1.3	13:55 7.4	19:50 1.3							
	Tu	26	2:11 8.1	8:30 0.6	14:23 6.2	20:20 0.3			F	26	2:48 6.9	9:35 —0.1	16:11 5.8	21:50 2.7			F	26	1:35 7.2	8:09 —0.9	14:48 6.8	20:37 2.2							
	W	27	2:50 7.5	9:19 0.4	15:23 5.9	21:11 1.4			○	S	27	3:27 6.2	10:35 0.3	17:36 5.4	23:05 3.5			S	27	2:10 6.5	8:58 —0.4	15:51 6.1	21:38 3.0						
	Th	28	3:31 7.0	10:15 0.3	16:38 5.5	22:16 2.4			S	28	4:17 5.5	11:48 0.6	19:17 5.4			○	S	28	2:50 5.7	9:55 0.3	17:06 5.6	22:52 3.7							
	F	29	4:17 6.5	11:18 0.3	18:04 5.2	23:32 3.3											N	M	29	3:35 4.9	11:07 0.9	18:42 5.6							
	S	30	5:11 6.0	12:28 0.2	19:35 5.5													Tu	30	0:36 3.9	5:20 4.3	12:28 1.3	20:10 5.9						
	S	31	0:59 3.6	6:16 5.6	13:36 0.0	21:00 5.8												W	31	2:30 3.4	7:20 4.3	13:47 1.3	21:04 6.1						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 3.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard for the meridian 82° 30' E: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	3:33	9:37	15:48	22:01					M	1	4:35	10:27	16:37	23:05		W	1	5:07	10:53	16:55	23:22									
			—0.2	3.3	—0.3	3.4							0.2	2.7	0.0	3.2				0.4	2.3	0.3	3.0									
	S	2	4:12	10:15	16:27	22:42					N	Tu	2	5:20	11:10	17:18	23:53		Th	2	5:57	11:43	17:40									
			—0.1	3.2	—0.2	3.3							0.4	2.4	0.4	2.9				0.6	2.1	0.6										
	S	3	4:51	10:55	17:05	23:27						W	3	6:15	12:02	18:06			F	3	6:20	6:54	12:51	18:32								
			0.1	2.9	0.0	3.1								0.7	2.1	0.7				2.8	0.8	1.9	1.0									
	M	4	5:35	11:36	17:48							Th	4	6:50	7:24	13:27	19:11		C	S	4	1:15	8:07	14:42	19:42							
			0.4	2.5	0.3									2.6	1.0	1.8	1.0				2.5	0.9	1.8	1.2								
	Tu	5	6:18	6:30	12:26	18:40					C	F	5	7:01	9:20	16:12	21:02			S	5	2:20	9:23	16:45	21:46							
			2.8	0.7	2.2	0.7								2.4	1.1	1.7	1.2				2.3	1.0	1.8	1.2								
W	6	7:00	7:48	13:47	19:51						S	6	8:30	11:14	18:02	22:55			M	6	3:37	10:35	17:53	23:25								
		2.5	1.1	1.8	1.0								2.2	1.1	1.9	1.1				2.2	0.9	2.0	1.2									
Th	7	7:44	10:28	16:42	21:42						S	7	9:57	12:07	18:44			E	Tu	7	4:56	11:24	18:30									
		2.3	1.2	1.8	1.1								12.07	2.09	2.1					2.2	0.8	2.1										
F	8	8:24	12:15	18:18	23:22						M	8	10:10	5:58	12:37	19:13			W	8	5:32	5:58	12:05	18:53								
		2.2	1.0	2.0	1.0								0.9	2.8	0.7	2.3				1.1	2.2	0.7	2.3									
S	9	9:05	13:01	19:08						A	Tu	9	1:01	6:44	13:01	19:35			Th	9	1:12	6:37	12:36	19:16								
		2.4	0.8	2.2									0.8	2.5	0.5	2.5				1.0	2.3	0.5	2.5									
S	10	9:30	6:42	13:28	19:42					E	W	10	1:38	7:20	13:25	19:50			F	10	1:42	7:08	13:07	19:40								
		0.8	2.5	0.6	2.4								0.7	2.6	0.4	2.6				0.9	2.3	0.3	2.7									
M	11	1:18	7:20	13:48	20:04						Th	11	2:02	7:46	13:48	20:08			S	11	2:10	7:37	13:40	20:06								
		0.6	2.6	0.5	2.5								0.6	2.6	0.3	2.8				0.8	2.3	0.2	3.0									
Tu	12	1:54	7:58	14:06	20:23						F	12	2:25	8:08	14:12	20:29			S	12	2:25	8:02	14:10	20:41								
		0.5	2.7	0.4	2.7								0.6	2.6	0.1	3.0				0.7	2.3	0.1	3.2									
W	13	2:22	8:20	14:30	20:43					●	S	13	2:46	8:27	14:36	20:55		●	M	13	2:59	8:30	14:45	21:14								
		0.5	2.8	0.3	2.8								0.5	2.6	0.1	3.1				0.6	2.4	0.1	3.3									
Th	14	2:42	8:39	14:48	21:00						S	14	3:10	9:46	15:00	21:27		S	Tu	14	3:29	9:02	15:18	21:50								
		0.4	2.8	0.2	2.9								0.4	2.6	0.0	3.2				0.5	2.5	0.1	3.3									
F	15	3:04	8:57	15:04	21:18						M	15	3:34	9:12	15:28	22:02			W	15	4:03	9:40	15:53	22:30								
		0.3	2.8	0.1	3.0								0.4	2.6	0.1	3.2				0.4	2.5	0.1	3.3									
S	16	3:27	9:18	15:28	21:43						Tu	16	4:07	9:42	16:00	22:38			Th	16	4:43	10:22	16:30	23:11								
		0.3	2.7	0.1	3.1								0.4	2.5	0.2	3.1				0.3	2.4	0.3	3.2									
S	17	3:48	9:38	15:53	22:15					S	W	17	4:46	10:17	16:34	23:20			F	17	5:28	11:10	17:12	23:56								
		0.3	2.7	0.1	3.1								0.4	2.4	0.3	3.0				0.4	2.4	0.5	3.0									
M	18	4:17	10:06	16:20	22:52						Th	18	5:33	11:01	17:12			S	18	6:20	12:08	18:02										
		0.4	2.6	0.2	3.0								0.5	2.3	0.5					0.4	2.3	0.7										
Tu	19	4:53	10:33	16:52	23:33						F	19	6:07	6:27	11:57	18:02			S	19	6:46	7:18	13:14	19:06								
		0.4	2.5	0.3	2.9								2.8	0.6	2.1	0.8				2.8	0.5	2.2	0.9									
W	20	5:35	11:08	17:29						D	S	20	1:03	7:34	13:14	19:15		D	M	20	1:43	8:22	14:32	20:30								
		0.6	2.3	0.6									2.6	0.7	2.0	1.0				2.6	0.5	2.1	1.0									
Th	21	6:22	6:30	11:53	18:18						S	21	2:10	8:55	15:05	21:03		E	Tu	21	2:55	9:28	15:57	22:06								
		2.7	0.8	2.1	0.8								2.5	0.8	2.0	1.1				2.4	0.6	2.2	1.0									
F	22	7:08	7:43	13:07	19:36						M	22	3:29	10:12	16:41	22:43		P	W	22	4:10	10:34	17:13	23:35								
		2.5	0.9	1.9	1.0								2.4	0.6	2.2	0.9				2.4	0.5	2.4	0.9									
S	23	7:44	9:23	15:30	21:35					E	Tu	23	4:51	11:14	17:43	23:57			Th	23	5:19	11:34	18:15									
		2.4	1.0	1.9	1.0								2.5	0.4	2.5	0.7				2.4	0.3	2.6										
S	24	8:27	10:55	17:15	23:13						W	24	5:52	12:07	18:35				F	24	6:42	6:19	12:27	19:03								
		2.4	0.8	2.1	0.8								2.7	0.2	2.8					0.7	2.4	0.2	2.9									
M	25	9:12	11:54	18:13						P	Th	25	6:50	6:43	12:52	19:18			S	25	1:34	7:10	13:15	19:45								
		2.6	0.5	2.5									0.5	2.8	0.0	3.1				0.6	2.5	0.0	3.2									
Tu	26	10:18	6:28	12:41	18:58						F	26	1:38	7:28	13:40	20:00			S	26	2:22	7:58	13:58	20:28								
		0.5	2.8	0.2	2.8								0.3	2.9	—0.2	3.3				0.5	2.6	—0.1	3.3									
W	27	1:09	7:12	13:28	19:38					○	S	27	2:22	8:10	14:17	20:40		N	M	27	3:03	8:41	14:41	21:11								
		0.3	3.0	—0.1	3.1								0.2	2.9	—0.3	3.5				0.4	2.6	—0.1	3.4									
Th	28	1:52	7:53	14:04	20:18						S	28	3:02	8:48	14:57	21:22			Tu	28	3:42	9:21	15:22	21:52								
		0.0	3.1	—0.3	3.4								0.2	2.8	—0.3	3.5				0.4	2.5	0.0	3.4									
F	29	2:33	8:32	14:42	20:58						M	29	3:43	9:28	15:36	22:04			W	29	4:18	10:00	16:02	22:30								
		—0.1	3.2	—0.4	3.5								0.2	2.7	—0.2	3.5				0.4	2.5	0.1	3.3									
S	30	3:13	9:10	15:20	21:40					N	Tu	30	4:23	10:10	16:15	22:47			Th	30	4:55	10:42	16:40	23:10								
		—0.1	3.1	—0.4	3.5								0.3	2.5	0.1	3.3				0.4	2.4	0.3	3.1									
S	31	3:53	9:48	15:58	22:21														F	31	5:34	11:25	17:20	23:50								
		0.0	3.0	—0.2	3.4															0.5	2.3	0.5	2.7									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.					
N	F 1	4:00	9:05	15:05	22:47	N	M 1	7:12	12:02	17:12	N	M 1	2:40	8:44	13:45	23:05			
		0.9	1.0	0.4	1.7				0.7	1.0		0.6			1.0	1.1	0.7	1.4	
	S 2	5:52	10:49	16:25	23:53			Tu 2	0:37	7:44		13:12	18:35		Tu 2	7:35	12:35	17:28	
		0.7	1.0	0.4	1.8				1.8	0.5		1.2	0.5			0.7	1.0	0.8	
	S 3	6:52	12:05	17:35				W 3	1:22	8:10		13:57	19:28		W 3	0:34	7:47	13:27	19:00
M		0.6	1.1	0.3				1.9	0.3	1.3	0.4			1.5	0.5	1.2	0.6		
	M 4	0:44	7:32	13:00	18:33		Th 4	1:59	8:35	14:32	20:10		Th 4	1:19	8:00	13:58	19:42		
		2.0	0.4	1.2	0.3			2.0	0.2	1.5	0.3			1.7	0.3	1.4	0.5		
	Tu 5	1:26	8:07	13:46	19:20	O	F 5	2:32	8:58	15:05	20:42		F 5	1:51	8:18	14:27	20:13		
		2.1	0.3	1.3	0.2				2.1	0.1	1.6	0.2			1.8	0.2	1.6	0.3	
W 6	2:03	8:38	14:27	20:02			S 6	2:58	9:18	15:33	21:12		S 6	2:19	8:37	14:52	20:42		
	2.2	0.2	1.4	0.2				2.1	0.0	1.7	0.2			1.9	0.0	1.8	0.2		
Th 7	2:35	9:03	15:08	20:37			S 7	3:22	9:40	16:00	21:35	O A	S 7	2:46	8:58	15:16	21:07		
	2.2	0.1	1.5	0.2			2.1	-0.1	1.7	0.2				2.0	-0.1	1.9	0.1		
F 8	3:03	9:27	15:37	21:07	A	M 8	3:47	10:02	16:20	22:02			M 8	3:12	9:22	15:37	21:27		
	2.1	0.1	1.6	0.3				2.0	-0.1	1.7	0.2				2.0	-0.1	2.0	0.1	
S 9	3:30	9:53	16:08	21:36			Tu 9	4:12	10:27	16:40	22:28		E	Tu 9	3:37	9:40	15:54	21:50	
	2.1	0.1	1.5	0.3				2.0	-0.1	1.8	0.3				2.0	-0.1	2.0	0.1	
S 10	3:54	10:20	16:37	22:08		E	W 10	4:32	10:50	17:04	22:57			W 10	3:54	10:05	16:13	22:13	
	2.0	0.0	1.5	0.4				1.8	0.0	1.8	0.4				1.9	-0.1	2.0	0.1	
M 11	4:18	10:46	17:02	22:38			Th 11	4:52	11:12	17:38	23:28			Th 11	4:12	10:16	16:34	22:38	
	1.9	0.1	1.5	0.5				1.7	0.1	1.8	0.5			1.8	-0.1	2.0	0.2		
Tu 12	4:45	11:14	17:35	23:12			F 12	5:12	11:36	18:05		F 12	4:30	10:35	16:57	23:04			
E		1.8	0.2	1.5	0.6			1.6	0.1	1.7			1.7	0.0	2.0	0.3			
	W 13	5:10	11:45	18:13	23:55	C	S 13	0:02	5:31	12:08	18:42		S 13	4:48	10:58	17:23	23:33		
		1.6	0.2	1.5	0.7				0.6	1.4	0.2	1.6			1.6	0.1	1.9	0.6	
	Th 14	5:37	12:20	19:04				S 14	0:46	5:41	12:37	19:52		S 14	5:07	11:23	17:55		
		1.5	0.3	1.4					0.9	1.2	0.4	1.5			1.5	0.2	1.7		
F 15	0:50	6:07	13:02	20:15	C		M 15	13:35	22:40			M 15	0:10	5:15	11:50	18:39			
	0.8	1.3	0.4	1.4				0.6	1.6				0.7	1.3	0.4	1.5			
S 16	2:15	6:50	14:02	22:02			Tu 16	7:58	11:40	16:18		S	Tu 16	1:10	5:27	12:25	20:38		
	1.0	1.1	0.5	1.5				0.7	0.8	0.6				0.9	1.1	0.6	1.3		
S 17	15:30	23:32				S	W 17	0:22	7:43	13:10	18:16		W 17	7:45	11:35	16:00			
M		0.5	1.7					1.7	0.5	1.1	0.6			0.7	0.9	0.8			
	M 18	7:07	12:00	17:07			Th 18	1:15	8:00	13:50	19:20		Th 18	0:05	7:22	13:05	18:32		
		0.7	1.0	0.5				1.8	0.3	1.3	0.4			1.5	0.6	1.2	0.6		
	Tu 19	0:33	7:38	13:05	18:20		F 19	1:55	8:24	14:25	20:06		F 19	1:00	7:30	13:37	19:25		
		1.9	0.5	1.1	0.4			2.0	0.2	1.5	0.2			1.6	0.4	1.5	0.4		
S	W 20	1:20	8:07	13:50	19:15	●	S 20	2:30	8:50	14:58	20:46		S 20	1:40	7:52	14:06	20:06		
		2.0	0.3	1.3	0.3			2.1	0.0	1.8	0.1			1.8	0.2	1.8	0.2		
	Th 21	2:00	8:35	14:28	20:02	P	S 21	3:00	9:15	15:30	21:24	P	S 21	2:12	8:22	14:36	20:40		
		2.2	0.2	1.4	0.2				2.1	-0.1	2.0		0.0			1.9	0.0	2.0	0.0
	F 22	2:35	9:02	15:04	20:42			M 22	3:34	9:45	16:00		21:55	● E	M 22	2:49	8:52	15:05	21:12
	2.2	0.1	1.6	0.1				2.1	-0.2	2.1	0.0					2.0	-0.1	2.2	-0.1
S 23	3:08	9:30	15:39	21:20	E		Tu 23	4:05	10:10	16:27	22:30				Tu 23	3:18	9:17	15:34	21:42
	2.2	0.0	1.7	0.1				2.0	-0.2	2.1	0.1				2.0	-0.2	2.3	-0.1	
S 24	3:40	9:57	16:13	21:58			W 24	4:30	10:38	17:00	23:00		W 24		3:43	9:48	16:08	22:12	
	2.1	0.0	1.8	0.1				1.9	-0.2	2.0	0.2			2.0	-0.3	2.3	0.0		
M 25	4:12	10:28	16:46	22:40			Th 25	4:55	11:04	17:35	23:34		Th 25	4:08	10:08	16:35	22:42		
E		2.0	-0.1	1.8	0.2			1.8	-0.1	1.9	0.4			1.9	-0.2	2.2	0.2		
	Tu 26	4:48	11:04	17:25	23:18		F 26	5:20	11:34	18:14		F 26	4:38	10:38	17:02	23:10			
		1.9	0.0	1.8	0.4			1.6	0.0	1.8			1.7	-0.1	2.1	0.3			
	W 27	5:20	11:36	18:07		D	S 27	0:12	5:40	12:05	19:00		S 27	4:57	10:58	17:31	23:40		
		1.7	0.0	1.8					0.6	1.4	0.3	1.6			1.6	0.1	1.8	0.5	
Th 28	0:02	5:48	12:10	18:58			S 28	0:55	5:56	12:40	20:16	D	S 28	5:18	11:24	18:01			
	0.6	1.5	0.1	1.7				0.8	1.1	0.5	1.4				1.4	0.3	1.6		
F 29	0:55	6:20	12:57	20:08									N	M 29	0:18	5:26	11:50	18:40	
	0.8	1.3	0.2	1.6											0.7	1.2	0.6	1.4	
S 30	2:16	7:02	13:45	21:48										Tu 30	1:07	5:15	12:00	21:47	
	1.0	1.1	0.4	1.5										0.9	1.0	0.8	1.2		
S 31	5:57	9:32	15:12	23:27								W 31		7:17	13:07	18:33			
		0.9	1.0	0.5	1.6									0.7	1.1	0.9			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 12 is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ○, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	0:17	7:18	13:20	19:12	A	S	1	0:14	6:35	13:00	19:12	C	Tu	1	0:45	6:26	13:10	19:40
			1.4	0.6	1.3	0.7			1.4	0.4	1.6	0.5				1.3	0.3	1.9	6.9	
	F	2	1:03	7:30	13:42	19:40	E	S	2	0:57	7:00	13:28	19:36		W	2	1:24	7:00	13:40	20:10
			1.5	0.4	1.6	0.5			1.5	0.3	1.8	0.3				1.4	0.2	2.1	0.2	
	S	3	1:31	7:47	14:05	20:05		M	3	1:28	7:25	13:50	20:02		Th	3	1:58	7:32	14:12	20:38
E			1.7	0.2	1.8	0.3			1.6	0.2	2.0	0.2	O			1.4	0.2	2.2	0.2	
	S	4	1:59	8:08	14:25	20:27		Tu	4	1:56	7:50	14:12		20:28	F	4	2:30	8:04	14:42	21:05
			1.8	0.1	1.9	0.1			1.7	0.1	2.1	0.1				1.4	0.1	2.2	0.1	
	M	5	2:29	8:32	14:47	20:50	O	W	5	2:24	8:14	14:36		20:55	S	5	3:00	8:34	15:10	21:35
			1.9	0.0	2.0	0.0			1.7	0.0	2.2	0.1				1.5	0.1	2.2	0.1	
O	Tu	6	2:52	8:50	15:05	21:12		Th	6	2:48	8:34	15:00	21:16	S	S	6	3:34	9:05	15:42	22:05
			1.9	—0.1	2.1	0.0			1.7	0.0	2.3	0.1				1.5	0.1	2.2	0.2	
	W	7	3:13	9:07	15:23	21:34		F	7	3:14	8:54	15:26	21:40		M	7	4:08	9:40	16:14	22:40
			1.9	—0.1	2.2	0.0			1.6	0.0	2.3	0.1				1.4	0.2	2.1	0.2	
	Th	8	3:33	9:25	15:45	21:56		S	8	3:37	9:17	15:50	22:10		Tu	8	4:40	10:15	16:46	23:15
P			1.8	—0.1	2.2	0.1			1.6	0.0	2.2	0.1	E			1.4	0.3	1.9	0.2	
	F	9	3:53	9:44	16:06	22:18		S	9	4:03	9:45	16:17		22:40	W	9	5:20	11:05	17:24	23:55
			1.8	—0.1	2.2	0.1			1.5	0.1	2.1	0.2				1.4	0.4	1.7	0.5	
	S	10	4:13	10:05	16:31	22:45	S	M	10	4:28	10:15	16:47		23:14	Th	10	6:14	12:02	18:10	24:05
			1.6	0.0	2.1	0.2			1.4	0.2	2.0	0.3				1.4	0.6	1.5		
S	S	11	4:28	10:30	16:58	23:18		Tu	11	4:55	10:50	17:20	23:57	C	F	11	0:45	7:28	13:22	19:22
			1.5	0.1	2.0	0.4			1.3	0.3	1.8	0.4				0.4	1.4	0.8	1.3	
	M	12	4:47	10:55	17:28	23:55		W	12	5:38	11:36	18:00				1:55	9:08	15:20	21:04	
			1.4	0.2	1.8	0.6			1.2	0.5	1.6					0.4	1.5	0.8	1.2	
	Tu	13	5:09	11:27	18:05		C	Th	13	6:54	7:02	18:05	19:20		S	13	3:10	10:36	17:17	22:36
C			1.2	0.4	1.6				0.6	1.2	0.8	1.3	E			0.4	1.6	0.7	1.1	
	W	14	0:50	5:40	12:10	19:20		F	14	2:22	9:58	16:12		22:15	M	14	4:25	11:44	18:28	23:45
			0.7	1.1	0.7	1.3			0.7	1.2	0.7	1.2				0.4	1.8	0.6	1.2	
	Th	15	3:12	11:39	16:37	23:21		S	15	4:22	11:35	18:00		23:45	Tu	15	5:27	12:34	19:15	
			0.8	1.0	0.9	1.3			0.6	1.5	0.6	1.3				0.3	2.0	0.4		
P	F	16	6:05	12:30	18:33		E	S	16	5:38	12:25	18:50		W	16	0:40	6:20	13:20	19:35	
			0.7	1.3	0.6				0.4	1.8	0.4				1.3	0.2	2.1	0.3		
	S	17	0:30	6:44	13:05	19:15	P	M	17	0:35	6:24	13:05	19:30	Th	17	1:30	7:08	13:58	20:32	
			1.4	0.4	1.6	0.4			1.4	0.2	2.0	0.3			1.4	0.1	2.2	0.1		
	S	18	1:14	7:18	13:37	19:50		Tu	18	1:15	7:02	13:42	20:05	●	F	18	2:15	7:54	14:34	21:05
●			1.6	0.2	1.9	0.1			1.5	0.1	2.2	0.1	N			1.4	0.1	2.2	0.1	
	M	19	1:50	7:47	14:08	20:23	●	W	19	1:53	7:38	14:17		20:40	S	19	2:55	8:34	15:08	21:35
			1.8	0.0	2.1	0.0			1.6	0.0	2.3	0.1				1.5	0.1	2.2	0.1	
	Tu	20	2:22	8:16	14:40	20:55		Th	20	2:28	8:15	14:50		21:12	S	20	3:34	9:08	15:37	22:04
			1.8	—0.1	2.3	0.0			1.6	—0.1	2.3	0.1				1.5	0.2	2.1	0.1	
N	W	21	2:52	8:45	15:10	21:26		F	21	3:00	8:46	15:20	21:40	M	21	4:10	9:40	16:06	22:35	
			1.8	—0.2	2.4	0.0			1.6	—0.1	2.4	0.1			1.5	0.3	2.0	0.1		
	Th	22	3:20	9:12	15:40	21:54	N	S	22	3:35	9:17	15:50	22:10	Tu	22	4:48	10:16	16:35	23:05	
			1.8	—0.2	2.3	0.0			1.6	0.0	2.2	0.2			1.4	0.4	1.9	0.2		
	F	23	3:47	9:38	16:10	22:22		S	23	4:10	9:46	16:20	22:40	W	23	5:24	11:55	17:03	23:40	
N			1.7	—0.1	2.2	0.2			1.5	0.2	2.0	0.2			1.4	0.7	1.7	0.2		
	S	24	4:15	10:06	16:36	22:50		M	24	4:44	10:16	16:44	23:15	Th	24	6:05	11:34	17:40		
			1.6	0.0	2.1	0.3			1.4	0.3	1.9	0.3			1.4	0.7	1.6			
	S	25	4:45	10:32	17:04	23:16		Tu	25	5:15	10:54	17:12	23:52	A	F	25	0:17	6:58	12:24	18:15
			1.5	0.2	1.9	0.4			1.3	0.5	1.7	0.4			0.3	1.3	0.8	1.4		
D	M	26	5:04	10:58	17:28	23:56		W	26	6:05	11:35	17:45		●	S	26	0:57	8:04	13:34	19:00
			1.3	0.4	1.7	0.5			1.2	0.7	1.5				0.4	1.3	0.9	1.3		
	Tu	27	5:30	11:27	17:55		D	Th	27	6:40	7:32	12:40	18:37	S	27	1:53	9:28	15:25	20:30	
			1.2	0.6	1.4				0.5	1.1	0.9	1.3			0.4	1.4	0.9	1.2		
	W	28	0:48	6:34	12:20	18:38	A	F	28	1:52	9:58	15:28	21:00	M	28	3:00	10:44	17:40	22:30	
D			0.7	1.0	0.9	1.2			0.6	1.2	1.0	1.2			0.5	1.5	0.8	1.0		
	Th	29	4:25	12:00	17:55	23:02		S	29	3:36	11:20	17:52	23:00	Tu	29	4:12	11:45	18:46	23:52	
			0.8	1.2	1.0	1.2			0.6	1.3	0.9	1.2			0.6	1.7	0.7	1.1		
	F	30	6:05	12:35	18:47		E	S	30	5:00	12:02	18:38		W	30	5:17	12:32	19:26		
			0.6	1.4	0.7				0.5	1.5	0.7				0.5	1.8	0.5			
							M	31	0:00	5:48	12:38	19:10								
									1.2	0.4	1.7	0.5								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 foot below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.					
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
C	Th 1	0:53 1.1	6:14 0.4	13:14 2.0	20:00 0.4	O	S 1	2:17 1.3	7:44 0.3	14:22 2.1	20:52 0.2	P	W 1	8:08 1.9	9:05 0.1	15:17 2.0	21:27 -0.1
	F 2	1:40 1.2	7:03 0.3	13:54 2.1	20:32 0.2		M 2	2:54 1.5	8:30 0.2	14:56 2.1	21:17 0.1		Th 2	8:40 2.0	9:40 0.0	15:50 2.0	21:53 -0.1
	S 3	2:21 1.3	7:47 0.2	14:30 2.2	21:00 0.2		Tu 3	3:30 1.6	9:10 0.2	15:30 2.1	21:46 0.0		F 3	4:10 2.1	10:13 0.1	16:16 1.9	22:20 -0.1
P	S 4	2:59 1.4	8:27 0.2	15:08 2.2	21:32 0.1	E	W 4	4:08 1.8	9:48 0.2	16:02 2.0	22:16 -0.1	C	S 4	4:42 2.1	10:47 0.2	16:43 1.8	22:47 -0.1
	M 5	3:34 1.5	9:05 0.2	15:37 2.1	22:02 0.1		Th 5	4:35 1.8	10:28 0.2	16:38 1.9	22:58 0.0		S 5	5:18 2.0	11:22 0.4	17:08 1.6	23:17 0.0
	Tu 6	4:12 1.5	9:46 0.2	16:10 2.0	22:35 0.1		F 6	5:10 1.9	11:08 0.3	17:10 1.8	23:22 0.0		M 6	5:55 1.9	12:00 0.6	17:37 1.4	23:50 0.2
N	W 7	4:48 1.6	10:28 0.3	16:44 1.9	23:08 0.1	C	S 7	5:50 1.8	11:48 0.4	17:40 1.6	23:55 0.0	N	Tu 7	6:38 1.7	12:43 0.8	18:06 1.2	...
	Th 8	5:27 1.6	11:15 0.4	17:25 1.7	23:45 0.1		S 8	6:26 1.8	12:34 0.6	18:10 1.4	...		W 8	7:28 0.4	1:5 1.5	18:58 0.9	19:00 1.0
	F 9	6:13 1.6	12:05 0.5	18:06 1.6	...		M 9	7:02 0.1	1:17 0.7	18:33 0.8	18:47 1.2		Th 9	8:12 0.6	2:37 1.4	19:47 0.8	23:35 1.0
E	S 10	6:58 0.2	12:58 1.6	18:05 0.7	18:50 1.4	N	Tu 10	7:46 0.3	2:06 1.6	19:09 0.9	19:55 1.0	A	F 10	8:30 0.8	3:00 1.5	20:40 0.6	...
	S 11	7:46 0.2	13:48 1.6	18:42 0.8	19:45 1.2		W 11	8:34 0.4	2:56 1.6	19:58 0.8	20:42 1.0		S 11	9:22 1.2	3:52 0.7	21:30 1.6	...
	M 12	8:34 0.3	14:40 1.6	19:30 0.9	20:15 1.1		Th 12	9:22 0.6	3:46 1.7	20:50 0.6	...		S 12	10:12 1.4	4:45 0.5	22:20 1.7	...
C	Tu 13	9:20 0.4	15:30 1.7	20:10 0.8	20:52 1.1	E	F 13	10:05 1.1	4:58 0.6	21:57 1.8	22:52 0.4	P	M 13	11:00 1.6	5:55 0.3	23:59 1.8	...
	W 14	10:00 0.4	16:18 1.8	21:00 0.6	...		S 14	10:54 1.3	5:50 0.5	22:40 1.9	...		Tu 14	11:50 1.8	6:45 0.2	24:50 1.9	...
	Th 15	10:40 1.1	17:02 0.4	21:50 2.0	...		S 15	11:42 1.4	6:44 0.4	23:30 2.0	...		W 15	12:40 1.9	7:40 0.2	25:40 2.0	...
N	F 16	11:20 1.2	17:55 0.3	22:40 2.1	...	C	M 16	12:30 1.6	7:32 0.3	24:20 2.0	...	E	Th 16	1:30 2.0	8:30 0.1	26:30 1.9	...
	S 17	12:10 1.4	18:45 0.3	23:30 2.1	...		Tu 17	1:22 1.7	8:20 0.2	25:10 2.0	...		F 17	2:20 2.0	9:20 0.1	27:20 1.9	...
	S 18	1:00 1.5	19:35 0.3	24:20 2.1	...		W 18	2:10 1.8	9:10 0.2	26:00 2.0	...		S 18	3:10 2.0	10:10 0.2	28:10 1.8	...
P	M 19	1:50 1.5	20:25 0.3	25:10 2.0	...	E	Th 19	3:00 1.8	10:00 0.2	26:50 1.9	...	C	S 19	4:00 2.0	11:00 0.2	29:00 1.7	...
	Tu 20	2:40 1.6	21:15 0.3	26:00 2.0	...		F 20	3:50 1.8	10:50 0.3	27:40 1.8	...		M 20	4:50 1.9	11:50 0.3	30:00 1.6	...
	W 21	3:30 1.6	22:05 0.4	26:50 1.9	...		S 21	4:40 1.8	11:40 0.4	28:30 1.7	...		Tu 21	5:40 1.9	12:40 0.4	31:00 1.4	...
E	Th 22	4:20 1.6	22:55 0.4	27:40 1.8	...	C	S 22	5:30 1.8	12:30 0.5	29:20 1.6	...	P	W 22	6:30 1.7	1:30 0.6	32:00 1.2	...
	F 23	5:10 1.6	23:45 0.5	28:30 1.7	...		M 23	6:20 1.7	13:20 0.6	30:10 1.4	...		Th 23	7:20 1.6	2:20 0.8	33:00 1.1	...
	S 24	6:00 1.5	24:35 0.6	29:20 1.5	...		Tu 24	7:10 1.6	14:10 0.7	31:00 1.2	...		F 24	8:10 0.6	3:10 1.4	34:00 0.9	...
C	S 25	6:50 0.2	25:25 1.5	30:10 0.7	...	E	W 25	8:00 0.4	15:00 1.5	31:50 0.9	...	N	S 25	9:00 0.8	4:00 1.4	35:00 0.7	...
	M 26	7:40 0.3	26:15 1.5	31:00 0.9	...		Th 26	8:50 0.5	15:50 1.4	...	...		S 26	9:50 1.1	5:00 0.7	36:00 1.5	...
	Tu 27	8:30 0.4	27:05 1.5	31:50 0.9	...		F 27	9:40 0.7	16:40 1.5	...	...		M 27	10:40 1.4	6:00 0.4	37:00 1.7	...
P	W 28	9:20 0.5	27:55 1.6	32:40 0.8	...	C	S 28	10:30 1.0	17:30 0.7	...	...	P	Tu 28	11:30 1.7	7:00 0.2	38:00 1.8	...
	Th 29	10:10 0.5	28:45 1.7	33:30 0.6	...		S 29	11:20 1.2	18:20 0.5	...	...		W 29	12:20 1.9	8:00 0.1	39:00 1.9	...
	F 30	11:00 1.0	29:35 0.5	34:20 1.9	...		M 30	12:10 1.5	19:10 0.3	...	...		Th 30	1:10 2.1	8:50 0.0	40:00 2.0	...
S	S 31	11:50 1.1	30:25 0.4	35:10 2.0	...	O	Tu 31	1:00 1.7	20:00 0.1	...	...	E					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 1.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	0:40 2.2	5:15 3.2	11:50 0.1	18:54 4.4	A	S	1	0:20 1.2	5:55 3.1	11:30 1.1	17:57 4.4		Tu	1	0:06 -0.2	6:45 3.5	11:32 2.0	17:29 4.7
	F	2	1:00 1.8	6:05 3.5	12:24 0.3	19:02 4.5	E	S	2	0:34 0.7	6:26 3.5	12:04 1.2	18:07 4.5		W	2	0:35 -0.8	7:25 3.8	12:15 2.1	17:40 4.8
	S	3	1:14 1.4	6:40 3.8	12:45 0.4	19:14 4.6		M	3	0:48 0.3	7:00 3.8	12:27 1.3	18:28 4.6		Th	3	1:05 -1.2	8:00 4.1	12:55 2.3	18:00 5.0
	S	4	1:28 0.9	7:12 4.0	13:15 0.4	19:25 4.6		Tu	4	1:08 -0.2	7:30 4.0	12:57 1.3	18:50 4.8	○	F	4	1:38 -1.6	8:40 4.4	13:28 2.5	18:30 5.1
	M	5	1:40 0.5	7:40 4.2	13:35 0.5	19:45 4.7	○	W	5	1:30 -0.6	8:02 4.2	13:25 1.5	19:10 4.9		S	5	2:15 -1.9	9:24 4.5	14:20 2.6	19:10 5.2
E	Tu	6	2:00 0.1	8:10 4.3	14:00 0.6	20:00 4.8		Th	6	2:00 -1.0	8:40 4.3	13:57 1.8	19:32 5.0	S	S	6	2:55 -1.9	10:10 4.6	15:10 2.7	20:10 5.3
	W	7	2:24 -0.2	8:40 4.3	14:24 0.9	20:20 4.9		F	7	2:30 -1.3	9:18 4.4	14:30 2.0	20:00 5.0		M	7	3:37 -1.8	11:00 4.5	16:05 2.8	20:40 5.4
	Th	8	2:50 -0.5	9:15 4.3	14:50 1.2	20:38 4.9		S	8	3:05 -1.5	10:05 4.2	15:05 2.4	20:28 4.9		Tu	8	4:20 -1.4	11:50 4.6	17:12 2.8	21:10 5.5
	F	9	3:22 -0.8	9:55 4.1	15:15 1.7	21:00 4.9		S	9	3:45 -1.4	10:58 4.2	15:48 2.7	21:00 4.7		W	9	5:10 -0.9	12:42 4.6	18:35 2.4	21:40 5.6
	S	10	4:00 -0.8	10:45 3.8	15:45 2.1	21:26 4.8	S	M	10	4:30 -1.2	12:00 4.2	16:45 3.2	21:40 4.3		Th	10	6:04 -0.3	13:32 4.7	20:03 2.0	22:10 5.7
S	S	11	4:40 -0.7	11:45 3.6	16:20 2.6	21:56 4.5		Tu	11	5:20 -0.8	13:10 4.0	18:15 3.1	22:34 3.7	○	F	11	0:48 3.0	7:08 0.4	14:20 4.7	21:10 5.8
	M	12	5:34 -0.5	13:06 3.4	17:10 3.0	22:38 4.1		W	12	6:24 -0.3	14:20 4.2	20:15 2.7	23:00 3.8	E	S	12	2:45 2.9	8:20 1.0	15:04 4.7	22:00 6.0
	Tu	13	6:40 -0.3	15:05 3.5	19:20 3.2	23:50 3.6	○	Th	13	0:18 3.2	7:36 0.1	15:15 4.4	21:45 2.0		S	13	4:24 3.2	9:26 1.5	15:45 4.9	23:00 6.1
	W	14	8:12 -0.1	16:15 4.0	21:52 2.7	24:40 3.7		F	14	2:40 3.1	8:55 0.4	16:00 4.6	22:38 1.0		M	14	5:40 3.5	10:26 1.9	16:25 5.2	23:40 6.2
	Th	15	2:20 3.3	9:35 0.0	16:56 4.4	23:00 1.9		S	15	4:20 3.4	10:14 0.7	16:37 4.8	23:20 0.2		Tu	15	6:40 3.8	11:20 2.3	17:05 5.3	24:10 6.3
P	F	16	4:15 3.6	10:45 -0.1	17:30 4.7	23:45 1.0	E	S	16	5:30 3.9	11:10 1.0	17:17 5.1	24:00 0.3		W	16	0:30 -1.7	7:34 4.1	12:10 2.4	17:40 5.3
	S	17	5:30 4.1	11:38 -0.1	18:04 5.1	24:40 1.1	P	M	17	0:00 -0.6	6:28 4.3	11:55 1.1	17:50 5.4		Th	17	1:10 -2.0	8:20 4.2	12:56 2.5	18:30 5.5
	S	18	0:20 0.1	6:28 4.6	12:30 0.0	18:38 5.3		Tu	18	0:40 -1.3	7:20 4.5	12:40 1.4	18:26 5.6	●	F	18	1:54 -2.2	9:06 4.4	13:45 2.6	19:10 5.6
	M	19	1:00 -0.6	7:16 5.0	13:10 0.1	19:12 5.6	●	W	19	1:22 -1.9	8:10 4.6	13:20 1.7	19:04 5.7	N	S	19	2:30 -2.1	9:50 4.4	14:30 2.8	19:40 5.9
	Tu	20	1:40 -1.2	8:06 5.1	13:50 0.4	19:44 5.7		Th	20	2:05 -2.1	9:00 4.5	14:00 2.0	19:38 5.5		S	20	3:10 -1.7	10:34 4.4	15:22 2.8	20:20 6.0
N	W	21	2:20 -1.6	8:55 5.0	14:25 0.9	20:17 5.6		F	21	2:45 -2.1	9:50 4.4	14:45 2.3	20:14 5.3		M	21	3:45 -1.3	11:10 4.4	16:20 2.8	21:00 6.1
	Th	22	3:05 -1.7	9:45 4.7	15:05 1.4	20:50 5.4	N	S	22	3:28 -1.8	10:40 4.3	15:30 2.5	20:48 4.9		Tu	22	4:20 -0.8	11:50 4.4	17:25 2.7	21:40 6.2
	F	23	3:48 -1.6	10:40 4.3	15:45 1.9	21:24 5.1		S	23	4:10 -1.4	11:37 4.2	16:24 2.8	21:20 4.3		W	23	4:50 -0.3	12:25 4.4	18:40 2.4	22:20 6.3
	S	24	4:35 -1.2	11:42 3.9	16:28 2.4	21:55 4.6		M	24	4:50 -0.8	12:35 4.1	17:40 3.0	21:54 3.6		Th	24	5:20 0.2	13:05 4.4	20:05 2.2	23:20 6.4
	S	25	5:24 -0.7	13:05 3.8	17:30 2.9	22:24 4.0		Tu	25	5:35 -0.8	13:38 4.0	18:37 2.9	22:30 3.0	A	F	25	5:58 0.8	13:38 4.4	21:12 1.3	23:50 6.5
D	M	26	6:20 -0.2	14:56 3.8	19:10 3.2	22:45 3.4		W	26	6:20 0.3	14:35 4.1	21:55 2.5	23:58 2.6	D	S	26	1:15 2.3	6:32 1.4	14:05 4.2	21:50 6.6
	Tu	27	7:30 0.3	16:20 4.0	22:40 2.7	23:40 2.8	D	Th	27	7:10 0.8	15:18 4.2	22:48 2.0	24:40 2.9		S	27	3:10 2.2	7:15 1.8	14:35 4.3	22:20 6.7
	W	28	0:50 2.8	8:50 0.6	17:00 4.2	23:45 2.8	A	F	28	2:50 2.4	8:15 1.2	15:50 4.2	23:15 1.4		M	28	4:46 2.4	8:18 2.2	15:10 4.5	22:54 6.8
	Th	29	3:50 2.6	10:05 0.8	17:25 4.2	24:10 2.9		S	29	4:30 2.4	9:25 1.5	16:15 4.2	23:28 0.9		Tu	29	5:50 3.0	9:30 2.4	15:52 4.6	23:20 6.9
	F	30	0:05 1.8	5:06 2.9	10:50 1.0	17:40 4.3	E	S	30	5:24 2.8	10:14 1.8	16:32 4.3	23:45 0.3		W	30	6:38 3.4	10:40 2.5	16:34 4.7	23:50 7.0
							M	31	6:05 3.2	10:52 1.9	16:56 4.6	24:10 0.4								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Aden Mean Local Civil, for the meridian 44° 59' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N O A E C S P D	F	1	1:07 4.1	6:55 9.4	13:37 1.2	20:25 9.5				M	1	8:32 5.0	8:50 7.8	15:15 1.0	22:27 10.6				N	M	1	1:55 5.6	6:45 7.4	13:40 2.3	21:08 9.3				
	S	2	2:25 4.3	8:06 9.1	14:36 0.7	21:37 10.3				N	Tu	2	4:40 4.4	10:03 8.2	16:10 0.7	23:12 11.3				Tu	2	3:35 5.1	8:42 7.2	15:00 2.1	22:15 10.0				
	S	3	3:35 4.2	9:10 9.0	15:30 0.0	22:32 11.3				W	3	5:28 3.7	10:57 8.7	16:55 0.4	23:48 11.9				W	3	4:38 4.2	10:02 7.7	16:00 1.8	22:55 10.7					
	M	4	4:32 3.8	10:10 9.2	16:17 -0.4	23:20 12.0				Th	4	6:05 3.0	11:40 9.2	17:35 0.2				Th	4	5:18 3.8	10:53 8.5	16:44 1.5	23:28 11.2						
	Tu	5	5:28 3.4	11:00 9.2	17:00 -0.7	23:58 12.6			O	F	5	0:23 12.3	6:40 2.5	12:20 9.5	18:05 0.2				F	5	5:50 2.6	11:33 9.2	17:20 1.1	23:59 11.6					
	W	6	6:06 3.0	11:45 9.5	17:40 -0.7					S	6	0:53 12.5	7:07 2.1	12:55 9.7	18:35 0.4				S	6	6:13 2.0	12:06 9.8	17:50 1.0						
	Th	7	0:35 12.8	6:45 2.8	12:25 9.6	18:15 -0.6				S	7	1:20 12.4	7:30 1.9	13:27 9.7	19:05 0.7			A	S	7	0:25 11.8	6:34 1.5	12:37 10.2	18:20 0.9					
	F	8	1:10 12.9	7:20 2.7	13:05 9.5	18:50 -0.1			A	M	8	1:50 12.1	7:50 1.8	13:56 9.7	19:32 1.2				M	8	0:50 11.8	6:53 1.1	13:06 10.6	18:47 1.1					
	S	9	1:42 12.7	7:55 2.6	13:40 9.2	19:20 0.5				Tu	9	2:13 11.7	8:13 1.6	14:30 9.6	20:00 1.7			E	Tu	9	1:15 11.7	7:13 0.7	13:36 10.7	19:13 1.3					
	S	10	2:15 12.2	8:22 2.7	14:18 8.9	19:53 1.2			E	W	10	2:37 11.3	8:37 1.6	15:00 9.4	20:30 2.3				W	10	1:40 11.5	7:35 0.5	14:04 10.7	19:40 1.7					
M	11	2:43 11.6	8:50 2.8	14:50 8.5	20:25 2.0				Th	11	3:05 10.6	9:07 1.5	15:37 9.1	21:00 3.1				Th	11	2:06 11.1	8:00 0.5	14:35 10.6	20:08 2.3						
Tu	12	3:12 11.0	9:23 2.8	15:30 8.2	20:56 2.8				F	12	3:28 10.0	9:40 1.7	16:18 8.8	21:40 4.0				F	12	2:30 10.6	8:25 0.5	15:08 10.3	20:40 3.1						
W	13	3:40 10.4	9:57 2.8	16:12 7.8	21:30 3.5			C	S	13	3:57 9.5	10:20 1.8	17:10 8.5	22:30 4.9				S	13	2:55 10.0	9:00 0.7	15:47 9.9	21:15 3.9						
Th	14	4:13 9.7	10:40 2.7	17:04 7.4	22:18 4.4				S	14	4:32 8.8	11:20 1.9	18:23 8.4					S	14	3:23 9.3	9:37 1.1	16:36 9.4	22:00 4.8						
F	15	4:45 9.2	11:27 2.7	18:00 7.6	23:30 5.1				M	15	0:04 5.6	5:30 8.1	12:38 1.9	20:03 8.8			C	M	15	4:00 8.6	10:33 1.6	17:45 8.9	23:27 5.5						
S	16	5:30 8.7	12:30 2.3	19:25 8.0					Tu	16	2:05 5.8	7:10 7.6	14:00 1.4	21:30 9.9			S	Tu	16	5:05 7.9	11:55 2.1	19:22 9.0							
S	17	1:08 5.5	6:35 8.2	13:35 1.7	20:52 8.9			S	W	17	3:30 4.8	9:00 8.0	15:12 0.6	22:27 11.3				W	17	1:50 5.8	6:55 7.4	13:34 1.9	20:56 9.8						
M	18	2:35 5.3	8:00 8.1	14:37 0.9	21:59 10.2				Th	18	4:27 8.5	10:14 9.0	16:12 -0.3	23:12 12.4				Th	18	3:12 4.2	8:50 8.0	14:57 1.3	21:57 10.9						
Tu	19	3:45 4.6	9:20 8.5	15:32 0.0	22:45 11.5				F	19	5:15 2.2	11:10 10.2	17:05 -1.1	23:53 13.4				F	19	3:45 2.7	10:05 9.4	16:00 0.4	22:45 12.0						
W	20	4:40 3.7	10:25 9.2	16:25 -0.9	23:30 12.7			S	S	20	5:57 1.0	12:00 11.3	17:53 -1.6					S	20	4:50 1.3	10:58 10.8	16:58 -0.4	23:27 12.7						
Th	21	5:30 2.8	11:19 9.9	17:18 -1.6				P	S	21	0:33 14.0	6:37 0.0	12:45 12.2	18:38 -1.7				P	S	21	5:30 0.0	11:45 12.1	17:40 -0.9						
F	22	0:12 13.6	6:13 1.9	12:07 10.7	18:00 -2.0				M	22	1:12 14.0	7:15 -0.7	13:30 12.5	19:25 -1.2			E	M	22	0:07 13.2	6:08 -1.1	12:28 13.0	18:25 -1.1						
S	23	0:58 14.2	6:58 1.2	12:55 11.2	18:46 -1.9			E	Tu	23	1:53 13.7	7:53 -1.0	14:13 12.5	20:08 -0.5				Tu	23	0:47 13.5	6:46 -1.8	13:12 13.5	19:08 -0.7						
S	24	1:33 14.2	7:40 0.7	13:40 11.3	19:32 -1.4				W	24	2:30 13.1	8:35 -0.9	15:00 12.2	20:52 0.7				W	24	1:24 13.2	7:24 -1.8	13:56 13.4	19:50 0.1						
M	25	2:13 13.8	8:20 0.4	14:27 11.2	20:20 -0.5				Th	25	3:08 12.1	9:20 -0.4	15:50 11.4	21:40 2.2				Th	25	2:02 12.6	8:04 -1.5	14:40 12.9	20:34 1.3						
Tu	26	2:55 13.1	9:03 0.4	15:16 11.0	21:10 0.7				F	26	3:48 10.9	10:05 0.4	16:43 10.3	22:37 3.7				F	26	2:40 11.5	8:45 -0.8	15:27 11.9	21:20 2.6						
W	27	3:37 12.2	9:50 0.5	16:10 10.4	22:00 2.0			D	S	27	4:30 9.1	11:00 1.3	17:47 9.3					S	27	3:19 10.3	9:30 0.2	16:17 10.8	22:18 4.0						
Th	28	4:20 11.1	10:45 0.8	17:12 9.7	23:08 3.4				S	28	0:00 4.9	5:20 8.8	12:12 2.0	19:20 8.9			C	S	28	4:02 9.1	10:20 1.4	17:15 9.8	23:33 4.9						
F	29	5:08 10.0	11:47 1.3	18:22 9.1					N	M	29	4:55 7.7	11:30 2.5	18:37 9.0				N	M	29	4:55 7.7	11:30 2.5	18:37 9.0						
S	30	0:30 4.6	6:03 8.9	12:55 1.5	19:55 9.1				Tu	30	1:46 5.1	6:25 6.8	13:08 3.1	20:25 8.9				Tu	30	1:46 5.1	6:25 6.8	13:08 3.1	20:25 8.9						
S	31	2:05 5.1	7:20 8.1	14:08 1.4	21:25 9.8				W	31	3:17 4.5	8:37 6.9	14:36 3.1	21:36 9.5				W	31	3:17 4.5	8:37 6.9	14:36 3.1	21:36 9.5						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82°30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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A	Th	1	4:10 3.7	9:55 7.6	15:40 2.9	22:20 10.0	C	S	1	3:48 2.7	10:10 8.5	15:48 3.5	22:00 9.5	O	Tu	1	3:42 1.1	10:35 10.1	16:17 3.7	22:12 9.3	S	W	2	4:15 2.9	11:10 8.5	16:53 2.6	22:50 10.3	F	Th	3	4:48 -0.4	11:47 11.8	17:32 3.2	23:28 9.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	F	2	4:45 2.9	10:40 8.5	16:27 2.6	22:55 10.3		S	2	4:12 2.0	10:43 9.4	16:21 3.2	22:30 9.8		F	4	5:23 -1.0	12:24 12.4	18:13 3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	S	3	5:10 2.1	11:13 9.3	16:58 2.1	23:22 10.6		M	3	4:37 1.3	11:18 10.2	16:58 2.7	23:00 10.1		S	5	0:07 9.8	6:00 -1.3	13:03 12.8	18:55 2.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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E	Tu	6	0:13 11.2	6:10 0.4	12:40 11.2	18:22 1.5	C	Th	6	0:02 10.4	5:55 -0.6	12:44 12.0	18:30 2.5	S	S	6	0:48 9.7	6:40 -1.3	13:45 12.9	19:40 2.9	F	M	7	1:32 9.6	7:20 -0.9	14:27 12.6	20:24 3.0	P	Tu	8	2:20 9.3	8:06 -0.1	15:12 12.2	21:15 3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	W	7	0:40 11.1	6:32 0.0	13:10 11.5	18:51 1.7		F	7	0:33 10.3	6:25 -0.9	13:18 12.3	19:04 2.7		W	9	3:12 8.9	8:58 0.8	16:00 11.6	22:18 3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Th	8	1:05 11.0	6:57 -0.2	13:39 11.6	19:20 2.1		S	8	1:05 10.0	6:58 -0.9	13:56 12.3	19:43 3.0		Th	10	4:12 8.7	10:02 1.8	16:50 10.9	23:24 2.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	F	9	1:32 10:6	7:25 -0.3	14:13 11.6	19:52 2.6		S	9	1:40 9.7	7:34 -0.6	14:37 12.0	20:24 3.4		M	14	2:24 0.6	9:07 10.3	15:04 3.2	20:55 9.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	S	10	2:00 10.2	7:57 -0.2	14:48 11.3	20:27 3.3		M	10	2:20 9.1	8:13 0.0	15:23 11.5	21:12 3.9		Th	11	5:24 8.6	11:20 2.7	17:45 10.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
S	S	11	2:30 9.6	8:30 0.2	15:29 10.8	21:04 3.9	C	Tu	11	3:07 8.6	9:00 0.8	16:12 11.0	22:18 4.1	E	W	12	4:05 8.1	10:02 1.8	17:10 10.4	23:40 3.9	P	S	12	0:30 2.0	6:45 8.8	12:47 8.3	18:54 10.0	N	S	13	1:30 1.4	7:57 9.4	14:00 8.7	19:57 9.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	M	12	3:07 8.9	9:13 0.8	16:20 10.2	22:03 4.7		W	12	4:05 8.1	10:02 1.8	17:10 10.4	23:40 3.9		M	14	2:24 0.6	9:07 10.3	15:04 3.2	20:55 9.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	W	14	5:10 7.6	11:36 2.3	18:50 9.5			F	14	1:00 3.3	7:00 8.1	13:07 2.8	19:30 9.9		W	16	4:02 -1.0	10:58 12.2	16:53 2.8	22:42 10.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Th	15	1:26 4.4	7:03 7.5	13:20 2.4	20:15 9.9		S	15	2:03 2.2	8:20 9.1	14:24 2.6	20:35 10.2		Th	17	4:47 -1.4	11:43 12.8	17:42 2.7	23:28 10.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
P	F	16	2:43 3.2	8:43 8.4	14:44 1.9	21:20 10.5	P	S	16	2:55 1.1	9:26 10.3	15:25 2.0	21:30 10.7	N	M	17	3:48 0.0	10:20 11.6	16:17 1.6	22:22 11.1	F	S	18	5:29 -1.6	12:27 13.2	18:28 2.6		A	S	19	0:15 10.1	6:10 -1.4	13:09 13.2	19:15 2.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	S	17	3:35 1.8	9:48 9.9	15:45 1.2	22:10 11.2		M	17	3:48 0.0	10:20 11.6	16:17 1.6	22:22 11.1		F	18	5:29 -1.6	12:27 13.2	18:28 2.6			S	20	0:48 9.8	6:50 -0.8	13:50 12.9	20:00 2.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	S	18	4:18 0.5	10:40 11.3	16:36 0.5	22:55 12.0		Tu	18	4:27 -1.1	11:10 12.6	17:05 1.4	23:10 11.4		S	20	0:48 9.8	6:50 -0.8	13:50 12.9	20:00 2.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	M	19	4:58 -0.7	11:27 12.6	17:24 0.0	23:37 12.5		W	19	5:08 -1.8	11:55 13.3	17:52 1.5	23:50 11.4		M	21	1:42 9.4	7:30 0.0	14:29 12.4	20:44 2.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Tu	20	5:37 -1.6	12:10 13.6	18:08 0.1			Th	20	5:48 -2.1	12:38 13.6	18:37 1.7			W	23	3:18 8.2	8:50 2.0	15:47 11.0	22:20 3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
D	W	21	0:18 12.5	6:15 -2.1	12:55 13.8	18:52 0.4	N	F	21	0:32 11.1	6:30 -2.0	13:22 13.5	19:23 2.1	A	Tu	22	2:28 8.9	8:10 0.9	15:10 11.8	21:32 3.1	F	Th	24	4:02 7.8	9:33 3.2	16:22 10.2	23:12 3.2	D	F	25	4:58 7.4	10:23 4.0	17:00 9.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Th	22	0:57 12.2	6:55 -2.1	13:38 13.7	19:35 1.1		S	22	1:13 10.6	7:10 -1.3	14:05 13.1	20:10 2.6		Th	24	4:02 7.8	9:33 3.2	16:22 10.2	23:12 3.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	F	23	1:36 11.6	7:35 -1.7	14:23 13.1	20:20 2.1		S	23	1:56 9.8	7:51 -0.4	14:49 12.3	21:00 3.2		W	23	3:18 8.2	8:50 2.0	15:47 11.0	22:20 3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	S	24	2:15 10.7	8:16 -0.8	15:07 12.3	21:09 3.1		M	24	2:42 9.0	8:33 0.7	15:34 11.5	21:55 3.6		Th	24	4:02 7.8	9:33 3.2	16:22 10.2	23:12 3.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	S	25	2:58 9.6	9:00 0.4	15:55 11.2	22:06 4.0		Tu	25	3:31 8.1	9:16 1.9	16:18 10.7	23:08 3.9		F	25	4:58 7.4	10:23 4.0	17:00 9.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
N	M	26	3:44 8.4	9:45 1.7	16:47 10.2	23:25 4.5	D	W	26	4:28 7.3	10:08 3.1	17:07 9.9		F	S	26	0:00 3.1	6:00 7.2	11:29 4.7	17:46 9.1	A	M	28	1:30 2.4	8:13 8.0	13:48 5.1	19:25 8.5	D	Tu	29	2:10 1.8	9:10 8.8	14:46 4.9	20:23 8.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Tu	27	4:42 7.3	10:49 2.9	17:53 9.4			Th	27	0:18 3.8	5:43 6.9	11:22 4.0	18:00 9.1		S	27	0:47 2.8	7:15 7.4	12:40 5.1	18:33 8.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	W	28	1:07 4.4	6:10 6.6	12:22 3.8	19:14 9.0		F	28	1:20 3.6	7:10 7.0	12:58 4.5	19:02 8.8		M	28	1:30 2.4	8:13 8.0	13:48 5.1	19:25 8.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	F	30	3:17 3.4	9:27 7.6	15:05 3.8	21:25 9.1		S	30	2:42 2.4	9:20 8.3	14:52 4.5	20:45 8.8		W	30	2:51 1.0	10:00 9.9	15:40 4.5	21:20 8.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
							M	31	3:12 1.8	9:59 9.2	15:34 4.1	21:32 9.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day: a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
O	Th	1	8:35 0.3	10:45 10.9	16:30 4.1	22:15 9.0	S	1	4:47 -1.0	11:50 12.9	17:48 2.3	23:42 10.2	P	W	1	0:18 12.0	6:10 -1.4	12:43 13.5	18:45 -0.6	
	F	2	4:20 -0.5	11:27 11.9	17:15 3.6	23:05 9.4	O	M	2	5:35 -1.4	12:30 13.5	18:30 1.6	E	Th	2	1:00 12.5	6:55 -1.1	13:23 13.5	19:23 -1.0	
	S	3	5:00 -1.1	12:07 12.7	18:02 3.0	23:52 9.7		Tu	3	0:30 10.8	6:20 -1.5	13:10 13.7	19:15 1.0	F	3	1:46 12.6	7:40 -0.5	14:02 13.0	20:02 -1.0	
	S	4	5:45 -1.4	12:50 13.2	18:48 2.6		P	W	4	1:20 11.2	7:08 -1.2	13:50 13.5	19:55 0.5	S	4	2:32 12.4	8:22 0.6	14:40 12.1	20:47 -0.6	
	M	5	0:40 10.0	6:30 -1.4	13:30 13.4	19:33 2.2		Th	5	2:05 11.2	7:53 -0.5	14:32 13.0	20:38 0.3	S	5	3:20 11.7	9:10 2.0	15:20 11.0	21:35 0.1	
P	Tu	6	1:27 10.1	7:15 -1.0	14:12 13.3	20:17 1.9	E	F	6	2:52 11.1	8:42 0.5	15:12 12.3	21:25 0.3	M	6	4:18 10.8	10:08 3.5	16:05 9.8	22:30 1.0	
	W	7	2:16 10.0	8:02 -0.3	14:55 12.7	21:05 1.8		S	7	3:45 10.8	9:33 1.7	15:55 11.3	22:18 0.6	C	Tu	7	5:18 9.8	11:35 4.6	17:00 8.5	23:42 1.7
	Th	8	3:08 9.8	8:57 0.6	15:40 12.0	21:57 1.6	C	S	8	4:45 10.1	10:35 3.0	16:40 10.3	23:15 1.0	W	8	6:42 9.8	13:25 5.0	18:22 7.6		
	F	9	4:05 9.7	9:55 1.8	16:25 11.3	22:50 1.4		M	9	5:50 9.5	11:55 4.2	17:35 9.3		N	Th	9	1:12 2.0	8:28 9.5	15:00 4.7	20:10 7.4
	S	10	5:10 9.4	11:00 2.8	17:20 10.5	23:55 1.3		Tu	10	0:20 1.3	7:10 9.3	13:25 4.8	18:45 8.5	F	10	2:33 1.9	9:40 10.1	16:05 3.9	21:35 8.0	
C	S	11	6:20 9.2	12:20 3.7	18:13 9.8		W	11	1:33 1.2	8:45 9.7	14:50 4.8	20:10 8.1	S	11	3:35 1.6	10:25 10.7	16:46 3.0	22:30 8.8		
	M	12	0:55 1.0	7:35 9.5	13:38 4.1	19:16 9.3	N	Th	12	2:40 1.0	9:55 10.5	16:02 4.3	21:28 8.3	S	12	4:25 1.3	11:02 11.2	17:20 2.3	23:10 9.5	
	Tu	13	1:57 0.6	8:53 10.0	14:50 4.2	20:25 9.1		F	13	3:40 0.6	10:45 11.2	16:58 3.7	22:28 8.8	M	13	5:02 1.0	11:35 11.6	17:48 1.6	23:48 10.1	
	W	14	2:52 0.1	9:58 10.9	15:55 4.0	21:30 9.1		S	14	4:30 0.3	11:25 11.8	17:40 3.0	23:17 9.3	●	Tu	14	5:35 0.9	12:02 11.6	18:12 1.1	
	Th	15	3:45 -0.3	10:50 11.6	16:50 3.7	22:30 9.3		S	15	5:12 0.1	12:00 12.2	18:15 2.4		W	15	0:20 10.5	6:08 1.0	12:30 11.6	18:32 0.8	
N	F	16	4:35 -0.6	11:35 12.3	17:40 3.1	23:20 9.5	●	M	16	0:00 9.8	5:50 0.1	12:35 12.4	18:45 1.9	E	Th	16	0:48 10.7	6:32 1.2	12:55 11.5	18:55 0.6
	S	17	5:20 -0.7	12:15 12.6	18:25 2.8			Tu	17	0:38 10.0	6:22 0.3	13:04 12.3	19:12 1.6	A	F	17	1:20 10.8	6:55 1.5	13:20 11.3	19:15 0.5
	S	18	0:05 9.7	6:00 -0.6	12:55 12.8	19:05 2.5		W	18	1:12 10.0	6:55 0.7	13:32 11.9	19:35 1.6	S	18	1:50 10.7	7:23 2.0	13:45 10.8	19:40 0.5	
	M	19	0:50 9.7	6:37 -0.2	13:30 12.7	19:45 2.3		Th	19	1:45 9.9	7:25 1.3	14:00 11.5	20:00 1.5	S	19	2:18 10.5	7:50 2.6	14:07 10.2	20:02 0.7	
	Tu	20	1:30 9.6	7:13 0.4	14:03 12.3	20:15 2.4	A	F	20	2:18 9.8	7:55 1.9	14:25 11.1	20:25 1.5	M	20	2:50 10.2	8:18 3.4	14:30 9.6	20:34 0.9	
E	W	21	2:10 9.1	7:48 1.1	14:35 11.7	20:30 2.4		S	21	2:50 9.5	8:18 2.6	14:50 10.4	20:54 1.6		Tu	21	3:28 9.7	8:50 4.1	14:56 9.0	21:07 1.4
	Th	22	2:48 8.8	8:20 2.0	15:07 11.0	21:22 2.5		S	22	3:28 9.1	8:48 3.4	15:15 9.8	21:28 1.8	D	W	22	4:12 9.2	9:32 4.9	15:33 8.2	21:57 2.0
	F	23	3:28 8.5	8:57 2.9	15:37 10.5	22:00 2.5		M	23	4:08 8.7	9:22 4.2	15:42 9.1	22:00 2.0	S	Th	23	5:20 8.8	11:25 5.8	16:35 7.5	23:18 2.5
	S	24	4:10 8.1	9:30 3.6	16:08 9.8	22:35 2.5	D	Tu	24	4:55 8.4	10:10 5.0	16:15 8.5	22:53 2.1		F	24	6:52 8.8	13:26 5.4	18:28 7.1	
	S	25	5:00 7.8	10:12 4.4	16:40 9.2	23:18 2.5		W	25	6:02 8.1	11:30 5.7	17:05 7.9		S	25	1:05 2.4	8:27 9.5	14:50 4.3	20:27 7.7	
D	M	26	5:55 7.6	11:15 5.1	17:15 8.7		Th	26	0:10 2.2	7:35 8.6	13:45 5.8	18:37 7.5		S	26	2:30 1.7	9:30 10.5	15:40 2.9	21:40 9.1	
	Tu	27	0:10 2.4	7:00 7.9	12:40 5.6	18:05 8.3	S	F	27	1:35 1.8	9:00 9.5	15:05 5.0	20:30 7.9	M	27	3:35 0.8	10:17 11.5	16:25 1.4	22:32 10.6	
	W	28	1:10 1.9	8:22 8.5	14:05 5.5	19:20 8.0		S	28	2:45 1.1	10:00 10.6	16:00 3.8	21:45 8.7	Tu	28	4:27 0.0	11:00 12.3	17:00 0.0	23:18 11.9	
	Th	29	2:10 1.3	9:30 9.6	15:15 5.0	20:42 8.3		S	29	3:45 0.2	10:45 11.8	16:45 2.4	22:43 9.9	Q	W	29	5:15 -0.6	11:37 12.9	17:40 -1.2	
	F	30	3:05 0.5	10:22 10.8	16:15 4.2	21:54 8.7		M	30	4:40 -0.7	11:30 12.8	17:30 1.2	23:33 11.1	E	Th	30	0:00 12.9	6:00 -1.0	12:17 13.1	18:17 -1.8
S	S	31	4:00 -0.3	11:07 11.9	17:05 3.3	22:50 9.5	O	Tu	31	5:25 -1.2	12:05 13.4	18:07 0.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Indian Standard, for the meridian 82° 30' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A	Th	1	5:56	12:07	18:18				A	S	1	6:00	12:18	18:10				Tu	1	6:10	12:28	18:20							
			1.4	3.3	1.3							1.1	3.5	1.0						0.7	3.7	0.9							
	F	2	0:30	6:44	12:53	18:52			E	S	2	0:12	6:31	12:47	18:41			W	2	0:27	6:43	12:56	18:54						
			3.5	1.1	3.6	0.9						3.9	0.8	3.8	0.8					4.2	0.4	3.9	0.7						
	S	3	1:02	7:15	13:25	19:23			M	3	0:45	7:00	13:12	19:08			Th	3	1:03	7:17	13:30	19:28							
E			3.9	0.8	3.9	0.6						4.1	0.5	4.0	0.6					4.3	0.2	4.1	0.5						
	S	4	1:30	7:43	13:50	19:48			Tu	4	1:13	7:25	13:37	19:32		○	F	4	1:39	7:52	14:03	20:06							
			4.2	0.5	4.1	0.4						4.4	0.3	4.2	0.5					4.4	0.2	4.3	0.6						
	M	5	1:56	8:08	14:14	20:12		○	W	5	1:40	7:52	14:01	19:58			S	5	2:15	8:28	14:29	20:45							
			4.4	0.2	4.3	0.3						4.5	0.1	4.3	0.4					4.4	0.1	4.4	0.4						
S	Tu	6	2:20	8:30	14:35	20:33			Th	6	2:08	8:20	14:28	20:26			S	S	6	2:52	9:06	15:18	21:26						
			4.6	0.1	4.4	0.2						4.6	0.0	4.4	0.3					4.3	0.2	4.4	0.5						
	W	7	2:48	8:55	14:57	20:55			F	7	2:37	8:50	14:58	20:58			M	7	3:32	9:47	16:02	22:08							
			4.7	0.0	4.4	0.2						4.6	0.0	4.4	0.3					4.2	0.3	4.3	0.6						
	Th	8	3:08	9:20	15:22	21:22			S	8	3:07	9:22	15:30	21:34			Tu	8	4:18	10:32	16:50	23:01							
C			4.7	0.0	4.4	0.2						4.5	0.1	4.4	0.4					4.0	0.6	4.1	0.7						
	F	9	3:34	9:46	15:50	21:52			S	S	9	3:42	9:55	16:05	22:10			W	9	5:09	11:24	17:46	24:00						
			4.6	0.1	4.3	0.3						4.3	0.3	4.2	0.6					3.8	0.8	3.9	0.9						
	S	10	4:03	10:16	16:18	22:25			M	10	4:22	10:35	16:50	22:56			Th	10	6:05	12:25	18:55	25:00							
			4.4	0.2	4.2	0.5						4.1	0.6	4.0	0.9					0.9	3.6	1.0	3.7						
P	S	11	4:36	10:52	16:57	23:02			Tu	11	5:05	11:20	17:43	23:37		○	F	11	1:17	7:25	13:37	24:00							
			4.2	0.5	4.0	0.8						3.8	0.9	3.7	1.1					1.1	8.4	1.1	3.3						
	M	12	5:13	11:32	17:44	23:50		○	W	12	6:08	12:20	18:54			○	S	12	2:32	8:45	14:54	25:11							
			3.9	0.8	3.7	1.1						3.5	1.2	3.5					1.0	3.4	1.1	3.5							
	Tu	13	6:03	12:26	18:50				Th	13	1:20	7:28	13:46	20:25			S	13	3:42	10:00	16:03	22:16							
D			3.5	1.2	3.3							1.4	3.2	1.4	3.4					0.9	3.5	1.0	4.0						
	W	14	1:06	7:22	13:53	20:33			F	14	2:59	9:14	15:25	21:50			M	14	4:44	11:05	17:03	23:22							
			1.5	3.1	1.5	3.1						1.5	3.2	1.3	3.6					0.7	3.7	0.8	4.2						
	Th	15	3:07	9:24	15:45	22:20			S	15	4:20	10:38	16:43	22:57			Tu	15	5:37	11:58	17:58								
			1.6	3.1	1.5	3.4						1.0	3.5	1.0	4.0					0.4	4.0	0.6							
N	F	16	4:47	11:02	17:09	23:30		○	S	16	5:20	11:38	17:38	23:47			W	16	6:04	12:25	18:45	24:57							
			1.3	3.4	1.1	3.9						0.6	3.9	0.6	4.4					4.4	0.2	4.2	0.5						
	S	17	5:50	12:06	18:09				M	17	6:07	12:25	18:25				Th	17	6:58	13:10	19:32								
			0.8	3.9	0.5							0.2	4.3	0.3						4.5	0.1	4.3	0.4						
	S	18	0:20	6:35	12:50	18:54			Tu	18	0:32	6:49	13:06	19:07		●	F	18	1:39	7:52	14:10	21:00							
E			4.4	0.2	4.4	0.1						4.7	-0.1	4.5	0.1					4.6	0.0	4.4	0.5						
	M	19	1:02	7:17	13:30	19:34		●	W	19	1:16	7:30	13:46	19:47		N	S	19	2:22	8:33	14:50	20:50							
			4.9	-0.2	4.8	0.2						4.9	-0.3	4.7	0.0					4.5	0.1	4.4	0.6						
	Tu	20	1:45	7:55	14:08	20:12			Th	20	1:57	8:08	14:23	20:27			S	20	3:08	9:15	15:30	21:40							
			5.2	-0.5	5.0	-0.3						5.0	-0.4	4.7	0.0					4.3	0.2	4.3	0.6						
S	W	21	2:22	8:35	14:45	20:48			F	21	2:35	8:48	15:02	21:07			M	21	3:43	9:56	16:10	22:23							
			5.3	-0.6	5.0	-0.3						4.9	-0.3	4.6	0.1					4.1	0.4	4.2	0.6						
	Th	22	3:00	9:12	15:23	21:26		N	S	22	3:16	9:28	15:40	21:50			Tu	22	4:25	10:37	16:53	23:06							
			5.2	-0.5	4.9	-0.2						4.6	0.0	4.4	0.4					3.9	0.7	4.0	1.0						
	F	23	3:37	9:50	16:00	22:06			S	23	3:57	10:10	16:22	22:38			W	23	5:10	11:20	17:37	23:50							
N			5.0	-0.3	4.6	0.1						4.3	0.3	4.2	0.7					3.6	0.9	3.8	1.1						
	S	24	4:15	10:30	16:39	22:48			M	24	4:38	10:52	17:08	23:20			Th	24	5:58	12:07	18:25								
			4.6	0.1	4.3	0.5						4.0	0.7	3.9	1.0					3.4	1.2	3.6							
	S	25	4:57	11:10	17:22	23:30			Tu	25	5:27	11:40	18:00			○	F	25	6:47	12:57	19:17								
			4.2	0.5	3.9	1.0						3.6	1.1	3.7					1.2	3.2	1.4	3.5							
D	M	26	5:42	12:00	18:17			W	26	6:16	12:25	18:40	19:04			○	S	26	1:43	7:52	13:51	20:00							
			8.7	1.0	3.5							1.3	3.2	1.4	3.3					1.3	3.1	1.5	3.5						
	Tu	27	0:28	6:39	13:02	19:34		○	Th	27	1:30	7:43	13:55	20:20			S	27	2:42	8:55	14:50	21:06							
			1.4	3.2	1.5	3.1						1.5	3.0	1.6	3.2					1.3	3.0	1.5	3.3						
	W	28	2:00	8:13	14:40	21:21		A	F	28	2:56	9:19	15:17	21:32			M	28	3:40	9:58	15:47	22:22							
E			1.7	2.9	1.7	3.0						1.6	3.0	1.6	3.3					1.3	3.1	1.5	3.5						
	Th	29	4:01	10:20	16:25	22:47			S	29	4:08	10:33	16:22	22:28			Tu	29	4:32	10:52	16:42	22:55							
			1.7	3.0	1.6	3.2						1.4	3.1	1.4	3.5					1.1	3.2	1.4	3.5						
	F	30	5:17	11:35	17:29	23:38		E	S	30	4:59	11:22	17:08	23:12			W	30	5:20	11:40	17:34	23:45							
			1.4	3.2	1.3	3.5						1.2	3.3	1.2	3.7					0.9	3.5	1.2	3.9						
								M	31	5:37	11:57	17:46	23:50						0.9	3.5	1.1	4.0							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cape Town Mean Local Civil, for the meridian 18° 25' E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
☾	Th	1	6:07 0.7	12:23 3.7	18:22 1.0	• • •	○	S	1	1:10 4.1	7:20 0.4	13:37 4.3	19:48 0.5	P	W	1	2:27 4.8	8:35 -0.3	14:47 5.1	21:00 -0.3
	F	2	0:33 4.1	6:50 0.5	13:05 4.0	19:10 0.8		M	2	1:57 4.3	8:08 0.1	14:21 4.6	20:33 0.2	E	Th	2	3:07 4.9	9:13 -0.4	15:27 5.2	21:38 -0.4
	S	3	1:20 4.2	7:32 0.3	13:47 4.2	19:56 0.6		Tu	3	2:40 4.5	8:50 0.0	15:05 4.8	21:17 0.1		F	3	3:47 4.9	9:53 -0.3	16:05 5.2	22:18 -0.3
	S	4	2:08 4.3	8:16 0.2	14:30 4.4	20:40 0.4	P	W	4	3:28 4.6	9:33 -0.1	15:47 4.9	22:00 0.0		S	4	4:25 4.7	10:32 -0.1	16:45 4.9	23:00 -0.1
	M	5	2:46 4.3	9:00 0.2	15:14 4.5	21:24 0.4		Th	5	4:07 4.6	10:15 -0.1	16:29 4.9	22:45 0.0		S	5	5:07 4.4	11:13 0.2	17:27 4.6	23:45 0.3
☾	Tu	6	3:30 4.3	9:48 0.2	16:00 4.5	22:10 0.4	E	F	6	4:50 4.4	10:58 0.1	17:13 4.7	23:30 0.2	☾	M	6	5:50 4.0	11:59 0.7	18:13 4.1	• • •
	W	7	4:17 4.2	10:30 0.3	16:47 4.5	23:00 0.5		S	7	5:35 4.2	11:43 0.4	18:00 4.5	• • •		Tu	7	6:37 0.7	12:42 3.6	12:53 1.2	19:10 3.6
	Th	8	5:07 4.1	11:18 0.5	17:37 4.4	23:55 0.6	☾	S	8	6:20 0.4	12:32 3.9	18:52 0.7	4.2	N	W	8	1:42 1.2	7:57 3.2	14:10 1.6	20:33 3.3
	F	9	6:00 3.9	12:10 0.7	18:32 4.2	• • •		M	9	1:15 0.7	7:22 3.6	13:32 1.1	19:50 3.8		Th	9	3:15 1.4	9:50 3.0	16:05 1.7	22:20 3.2
	S	10	0:52 0.7	7:00 3.7	13:10 0.9	19:28 4.1		Tu	10	2:20 1.0	8:34 3.3	14:47 1.4	21:01 3.6		F	10	4:55 1.4	11:30 3.3	17:43 1.4	23:48 3.4
☾	S	11	1:54 0.8	8:05 3.5	14:13 1.0	20:32 4.0		W	11	3:38 1.2	10:15 3.2	16:16 1.4	22:20 3.5		S	11	6:08 1.1	12:28 3.6	18:40 1.1	• • •
	M	12	3:00 0.9	9:18 3.4	15:23 1.1	21:37 3.9	N	Th	12	5:00 1.1	11:32 3.4	17:40 1.3	23:42 3.6		S	12	0:45 3.7	6:55 0.8	13:10 3.9	19:22 0.8
	Tu	13	4:08 0.9	10:33 3.5	16:35 1.1	22:40 3.9		F	13	6:06 0.9	12:38 3.6	18:44 1.0	• • •		M	13	1:28 4.0	7:32 0.5	13:44 4.2	19:55 0.5
	W	14	5:13 0.8	11:40 3.6	17:41 1.0	23:46 4.0		S	14	0:44 3.8	7:00 0.7	13:20 3.9	19:32 0.8	●	Tu	14	2:02 4.2	8:04 0.3	14:15 4.4	20:25 0.3
	Th	15	6:10 0.6	12:35 3.8	18:40 0.9	• • •	●	S	15	1:34 4.0	7:42 0.5	13:58 4.1	20:12 0.6		W	15	2:29 4.3	8:30 0.2	14:40 4.5	20:50 0.2
☾	F	16	0:42 4.1	7:00 0.5	13:23 4.0	19:30 0.7	●	M	16	2:15 4.1	8:20 0.4	14:34 4.3	20:45 0.4	E	Th	16	2:53 4.4	8:53 0.2	15:03 4.6	21:13 0.2
	S	17	1:33 4.2	7:46 0.4	14:05 4.1	20:15 0.6		Tu	17	2:50 4.2	8:55 0.3	15:07 4.4	21:17 0.4	A	F	17	3:15 4.3	9:15 0.3	15:27 4.6	21:38 0.2
	S	18	2:18 4.2	8:28 0.3	14:48 4.2	20:55 0.6		W	18	3:18 4.2	9:23 0.3	15:35 4.5	21:46 0.4		S	18	3:37 4.2	9:37 0.4	15:50 4.5	22:00 0.3
	M	19	2:58 4.2	9:07 0.3	15:20 4.3	21:34 0.6	A	Th	19	3:47 4.2	9:50 0.4	16:03 4.4	22:13 0.4		S	19	4:00 4.2	10:00 0.5	16:17 4.4	22:28 0.4
	Tu	20	3:34 4.1	9:43 0.4	15:55 4.3	22:10 0.6	E	F	20	4:12 4.1	10:15 0.5	16:29 4.4	22:40 0.5		M	20	4:27 4.0	10:30 0.6	16:44 4.1	23:00 0.6
☾	W	21	4:10 4.0	10:18 0.5	16:30 4.2	22:40 0.7		S	21	4:42 3.9	10:40 0.6	16:57 4.2	23:08 0.6		Tu	21	4:56 3.9	11:02 0.9	17:18 3.9	23:37 0.9
	Th	22	4:45 3.8	10:51 0.7	17:05 4.1	23:20 0.8		S	22	5:07 3.8	11:07 0.8	17:28 4.1	23:45 0.8	☾	W	22	5:36 3.6	11:40 1.1	17:59 3.6	• • •
	F	23	5:20 3.6	11:24 0.9	17:41 4.0	23:58 0.9		M	23	5:35 3.6	11:38 1.0	18:04 3.8	• • •	S	Th	23	6:05 1.2	12:31 3.3	18:37 1.5	19:00 3.2
	S	24	5:55 3.5	11:57 1.1	18:20 3.9	• • •	☾	Tu	24	6:25 1.0	12:14 3.4	18:48 1.3	• • •		F	24	1:36 1.5	8:08 3.0	14:21 1.7	20:47 3.0
	S	25	0:39 1.0	6:34 3.3	12:33 1.3	19:02 3.7		W	25	1:18 1.2	7:10 3.2	13:15 1.5	19:50 3.3		S	25	3:27 1.6	10:02 3.1	16:25 1.6	22:42 3.2
☾	M	26	1:27 1.2	7:20 3.2	13:19 1.5	19:53 3.5		Th	26	2:30 1.4	8:35 3.0	14:45 1.7	21:18 3.2		S	26	5:00 1.3	11:25 3.5	17:43 1.1	23:55 3.7
	Tu	27	2:23 1.3	8:20 3.1	14:21 1.6	20:53 3.5	S	F	27	3:57 1.4	10:21 3.1	16:33 1.6	22:50 3.4		M	27	6:02 0.8	12:20 4.1	18:35 0.5	• • •
	W	28	3:30 1.3	9:37 3.1	15:40 1.6	22:04 3.5		S	28	5:17 1.2	11:40 3.5	17:53 1.2	• • •	☾	Tu	28	0:47 4.2	6:58 0.2	13:03 4.6	19:17 0.0
	Th	29	4:37 1.2	10:53 3.2	17:00 1.4	23:13 3.6		S	29	0:03 3.7	6:17 0.8	12:37 3.9	18:50 0.8	P	W	29	1:28 4.7	7:34 -0.2	13:45 5.1	19:57 -0.4
	F	30	5:37 1.0	11:56 3.5	18:05 1.2	• • •		M	30	1:01 4.1	7:10 0.3	13:24 4.4	19:36 0.3		Th	30	2:07 5.0	8:12 -0.4	14:23 5.4	20:38 -0.6
	S	31	0:16 3.9	6:31 0.7	12:49 3.9	19:00 0.8	○	Tu	31	1:47 4.5	7:55 0.0	14:08 4.8	20:19 -0.1							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and high is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cape Town mean local civil, for the meridian 18° 25' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon, (a. m.) all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 1:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	2:43 5.1	8:48 -0.5	15:01 5.4	21:14 -0.6					M	1	3:37 4.8	9:43 0.0	15:53 4.7	22:16 -0.1			W	1	4:03 4.4	10:15 0.5	16:21 4.1	22:4 0.5								
	S	2	3:22 5.1	9:27 -0.4	15:39 5.3	21:50 -0.5				N	Tu	2	4:17 4.5	10:26 0.4	16:36 4.3	22:50 0.4			Th	2	4:50 4.1	11:00 0.8	17:10 3.8	23:2 0.5								
	S	3	4:00 4.8	10:05 -0.1	16:17 4.9	22:30 -0.2					W	3	5:01 4.1	11:11 0.8	17:22 3.8	23:38 0.9			F	3	5:41 3.8	11:56 1.2	18:06 3.4	23:5 0.5								
	M	4	4:37 4.5	10:47 0.2	16:57 4.5	23:13 0.3				C	Th	4	5:51 3.6	12:08 1.3	18:19 3.4	24:00 0.0			S	4	6:20 1.2	6:42 3.5	13:05 1.4	19:5 0.5								
	Tu	5	5:20 4.1	11:31 0.7	17:42 4.0	23:50 0.0					F	5	6:40 1.3	7:10 3.3	13:35 1.6	19:50 3.0			S	5	1:30 1.5	7:53 3.4	14:30 1.5	20:5 0.5								
	W	6	6:03 0.8	8:15 3.6	12:25 1.2	18:38 3.5					S	6	2:12 1.6	8:52 3.1	15:33 1.6	21:52 3.0			M	6	2:50 1.5	9:07 3.4	15:47 1.4	22:5 0.5								
	Th	7	1:10 1.3	7:32 8.2	13:52 1.6	20:10 3.1					S	7	3:57 1.6	10:20 3.3	16:55 1.4	23:16 3.3			Tu	7	4:02 1.4	10:10 3.5	16:45 1.3	23:5 0.5								
	F	8	2:50 1.6	9:33 8.1	16:08 1.7	22:20 3.0					M	8	5:08 1.3	11:18 3.6	17:40 1.1	23:30 0.0			W	8	4:55 1.3	10:56 3.7	17:26 1.0	24:5 0.5								
	S	9	4:48 1.5	11:10 8.3	17:31 1.4	23:45 8.3				A	Tu	9	6:03 3.6	5:54 1.0	11:57 3.9	18:18 0.8			Th	9	5:36 1.2	11:38 3.9	18:02 0.8	25:5 0.5								
	S	10	5:49 1.2	12:07 8.6	18:22 1.0	24:50 0.0				E	W	10	6:35 3.8	6:28 0.8	12:30 4.1	18:47 0.5			F	10	6:21 3.6	6:12 1.0	12:17 4.0	26:5 0.5								
	M	11	6:35 3.7	6:32 0.9	12:43 3.9	18:56 0.7					Th	11	1:01 4.0	6:55 0.6	13:00 4.4	19:13 0.3			S	11	6:52 3.8	6:45 0.9	12:52 4.2	27:5 0.5								
Tu	12	1:10 4.0	7:07 0.6	13:13 4.2	19:24 0.4					F	12	1:26 4.1	7:20 0.5	13:27 4.5	19:39 0.2			S	12	1:22 4.0	7:18 0.7	13:27 4.3	19:4 0.5									
W	13	1:36 4.2	7:36 0.4	13:40 4.5	19:52 0.2					S	13	1:50 4.2	7:45 0.6	13:54 4.5	20:07 0.1			M	13	1:58 4.2	7:53 0.6	14:00 4.3	20:5 0.5									
Th	14	2:00 4.3	7:58 0.3	14:05 4.6	20:16 0.1					S	14	2:15 4.3	8:12 0.4	14:22 4.5	20:33 0.1			Tu	14	2:26 4.3	8:30 0.5	14:36 4.3	20:5 0.5									
F	15	2:22 4.4	8:18 0.3	14:29 4.7	20:40 0.0					M	15	2:48 4.3	8:42 0.4	14:49 4.4	21:03 0.2			W	15	3:02 4.3	9:10 0.5	15:13 4.2	21:5 0.5									
S	16	2:43 4.4	8:40 0.3	14:51 4.6	21:02 0.1					Tu	16	3:12 4.3	9:14 0.5	15:20 4.3	21:33 0.4			Th	16	3:42 4.3	9:48 0.6	15:55 4.1	22:5 0.5									
S	17	3:07 4.3	9:03 0.3	15:15 4.5	21:28 0.1				S	W	17	3:46 4.2	9:48 0.6	15:57 4.1	22:10 0.6			F	17	4:27 4.2	10:35 0.7	16:42 3.9	23:5 0.5									
M	18	3:32 4.3	9:32 0.4	15:42 4.4	21:55 0.3					Th	18	4:26 4.0	10:30 0.8	16:37 3.8	22:53 0.9			S	18	5:16 4.1	11:30 0.9	17:35 3.7	23:5 0.5									
Tu	19	3:58 4.2	10:12 0.6	16:13 4.1	22:27 0.6					F	19	5:15 3.8	11:25 1.1	17:28 3.5	23:45 1.2			S	19	6:18 3.9	12:35 1.0	18:38 3.5	24:5 0.5									
W	20	4:34 4.0	10:37 0.8	16:48 3.9	23:04 0.9				D	S	20	6:17 3.5	12:40 1.3	18:43 3.2	24:00 0.0			M	20	6:52 1.1	7:18 3.8	13:45 1.1	19:5 0.5									
Th	21	5:18 3.7	11:22 1.1	17:35 3.5	23:52 1.2					S	21	1:02 1.4	7:42 3.4	14:18 1.4	20:25 3.1			Tu	21	2:05 1.2	8:28 3.8	14:58 1.0	21:5 0.5									
F	22	6:16 3.4	12:32 1.5	18:43 8.2	24:50 0.0					M	22	2:40 1.4	9:10 3.5	15:41 1.2	21:58 3.4			W	22	3:20 1.1	9:35 3.9	16:07 0.8	22:5 0.5									
S	23	1:08 1.5	7:48 8.1	14:23 1.6	20:40 3.0				E	Tu	23	4:06 1.1	10:20 3.9	16:47 0.8	23:05 3.7			Th	23	4:28 1.0	10:38 4.1	17:07 0.6	23:5 0.5									
S	24	3:02 1.6	9:42 3.3	16:12 1.4	22:30 3.3					W	24	5:08 0.8	11:17 4.3	17:40 0.4	23:57 4.1			F	24	5:29 0.8	11:36 4.3	18:00 0.3	24:5 0.5									
M	25	4:38 1.2	11:00 3.7	17:20 0.9	23:37 3.8				P	Th	25	5:57 0.4	12:05 4.6	18:23 0.0	24:00 0.0			S	25	6:22 4.0	6:22 0.6	12:30 4.5	25:5 0.5									
Tu	26	5:41 0.7	11:52 4.3	18:10 0.3	24:00 0.0					F	26	6:41 4.4	6:42 0.2	12:50 4.9	19:06 -0.3			S	26	1:08 4.3	7:12 0.4	13:18 4.6	19:4 0.5									
W	27	6:25 4.3	6:27 0.2	12:36 4.7	18:50 -0.1				O	S	27	1:22 4.7	7:24 0.0	13:38 5.0	19:47 -0.4			M	27	1:52 4.4	7:58 0.3	14:05 4.6	20:5 0.5									
Th	28	1:05 4.7	7:07 -0.1	13:18 5.1	19:30 -0.5					S	28	2:02 4.8	8:05 0.0	14:15 5.0	20:27 -0.3			Tu	28	2:33 4.5	8:42 0.3	14:48 4.5	21:5 0.5									
F	29	1:45 4.9	7:46 -0.3	13:57 5.3	20:08 -0.6				N	M	29	2:42 4.7	8:47 0.1	14:55 4.8	21:08 -0.2			W	29	3:14 4.5	9:26 0.4	15:30 4.3	22:5 0.5									
S	30	2:22 5.0	8:23 -0.3	14:35 5.3	20:47 -0.6					Tu	30	3:22 4.6	9:30 0.2	15:37 4.5	21:50 0.1			Th	30	3:55 4.4	10:08 0.5	16:12 4.1	23:5 0.5									
S	31	3:00 5.0	9:04 -0.2	15:14 5.1	21:26 -0.4												F	31	4:37 4.3	10:50 0.7	16:55 3.9	24:5 0.5										

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart unless a minus (-) sign is before the height, in which case subtract it.

The time used is Cape Town Mean Local Civil, for the meridian 18° 25' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
N	F	1	3:44 2.7	10:06 9.5	N	M	1	5:32 2.7	12:13 9.4	N	M	1	4:01 3.6	10:51 8.3
	S	2	4:48 2.8	11:17 9.8		Tu	2	0:30 10.0	6:25 2.2		Tu	2	5:27 3.2	12:10 8.9
	S	3	5:41 1.9	12:18 10.3		W	3	1:15 10.7	7:08 1.9		W	3	0:16 9.6	6:21 2.7
	M	4	0:38 10.7	6:28 1.4		Th	4	1:56 11.1	7:45 1.5		Th	4	1:04 10.3	7:00 2.2
	Tu	5	1:23 11.2	7:10 1.1		F	5	2:32 11.3	8:15 1.3		F	5	1:42 10.9	7:30 1.8
	W	6	2:05 11.5	7:50 1.0		S	6	3:04 11.3	8:45 1.1		S	6	2:15 11.2	7:57 1.4
	Th	7	2:42 11.5	8:25 1.0		S	7	3:33 11.1	9:10 1.0		S	7	2:43 11.3	8:20 1.0
	F	8	3:18 11.2	8:59 1.1		M	8	3:59 10.7	9:38 1.0		M	8	3:08 11.2	8:43 0.7
	S	9	3:51 10.8	9:31 0.8		Tu	9	4:23 10.4	10:07 1.1		Tu	9	3:30 11.0	9:08 0.5
	S	10	4:21 10.3	10:04 1.5		W	10	4:51 10.1	10:40 1.3		W	10	3:51 10.8	9:35 0.5
A	M	11	4:52 9.8	10:40 1.8	A	Th	11	5:15 9.8	11:16 1.7	A	Th	11	4:15 10.6	10:06 0.6
	Tu	12	5:22 9.4	11:18 2.2		F	12	5:50 9.5	12:00 2.3		F	12	4:46 10.3	10:40 1.1
	W	13	5:56 9.0	12:00 2.7		S	13	0:22 2.7	6:36 9.1		S	13	5:20 9.9	11:21 1.8
	Th	14	0:12 8.2	6:36 8.7		S	14	1:30 8.2	7:40 8.6		S	14	6:05 9.3	12:12 2.7
	F	15	1:16 8.6	7:28 8.4		M	15	2:58 8.4	8:09 8.3		M	15	0:50 2.8	7:05 8.7
	S	16	2:31 8.6	8:38 8.4		Tu	16	4:23 2.8	10:51 8.7		Tu	16	2:21 3.3	8:38 8.2
	S	17	3:45 8.3	10:00 8.6		W	17	5:27 1.8	12:08 9.7		W	17	4:00 2.9	10:36 8.5
	M	18	4:49 2.5	11:19 9.1		Th	18	0:28 10.7	6:28 0.7		Th	18	5:12 1.8	11:55 9.6
	Tu	19	5:45 1.5	12:21 10.0		F	19	1:13 11.8	7:11 -0.3		F	19	0:10 10.7	6:08 0.7
	W	20	0:42 10.8	6:35 0.5		S	20	2:05 12.7	7:57 -1.0		S	20	1:01 11.9	6:58 -0.4
P	Th	21	1:32 11.7	7:24 -0.3	P	S	21	2:50 13.3	8:40 -1.4	P	S	21	1:49 13.0	7:39 -1.2
	F	22	2:18 12.3	8:09 -0.8		M	22	3:31 13.4	9:23 -1.4		M	22	2:30 13.5	8:22 -1.5
	S	23	3:01 12.7	8:54 -1.0		Tu	23	4:15 13.1	10:06 -1.0		Tu	23	3:12 13.6	9:00 -1.5
	S	24	3:46 12.7	9:40 -0.9		W	24	4:57 12.4	10:49 -0.2		W	24	3:53 13.2	9:40 -1.0
	M	25	4:31 12.5	10:27 -0.5		Th	25	5:42 11.4	11:38 0.9		Th	25	4:35 12.4	10:21 -0.2
	Tu	26	5:18 11.9	11:16 0.2		F	26	6:33 10.3	12:30 2.1		F	26	5:20 11.3	11:04 1.0
	W	27	6:08 11.1	12:10 1.1		S	27	1:00 2.5	7:37 9.2		S	27	6:08 10.1	11:52 2.3
	Th	28	0:30 1.9	7:08 10.2		S	28	2:25 3.4	9:04 8.3		S	28	0:28 2.5	7:06 8.8
	F	29	1:39 2.6	8:10 9.3							M	29	1:52 3.6	8:35 7.9
	S	30	3:01 3.1	9:34 8.9							Tu	30	3:41 3.9	10:34 7.8
	S	31	4:26 3.0	11:03 9.0							W	31	5:06 3.6	11:52 8.5

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it. In order to refer the above heights to the plane used upon the Portuguese Charts of Lisbon Harbor, add 1.4 feet to each. A foot is about three-tenths of a meter.

The time used is Portuguese Standard, for the meridian 9° 11' W.; 0^h is midnight; 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	6:01	12:38	18:18	2.9	9.4	3.1			E	S	1	5:52	12:31	18:06	2.6	9.5	2.8			Tu	1	0:21	6:01	12:40	9.6	1.9	10.0			
	F	2	0:40	6:35	13:12	10.0	2.3	10.0	2.5	S	2	0:36	6:19	13:00	10.0	2.1	10.0	2.1		W	2	0:56	6:35	13:15	10.6	1.3	10.5					
	S	3	1:15	7:00	13:40	10.6	1.8	10.5	2.0	M	3	1:08	6:44	13:25	10.4	1.5	10.4	1.4		Th	3	1:31	7:09	13:45	10.4	0.7	10.8					
	S	4	1:46	7:25	14:05	11.0	1.3	10.7	1.3	Tu	4	1:35	7:10	13:50	10.6	1.0	10.7	0.8		F	4	2:07	7:45	14:21	10.6	0.5	11.1					
	M	5	2:11	7:47	14:26	11.2	0.9	10.8	0.8	W	5	2:00	7:36	14:13	10.7	0.6	10.9	0.3		S	5	2:45	8:25	15:00	10.7	0.4	11.2					
	Tu	6	2:35	8:10	14:46	11.1	0.5	10.9	0.4	Th	6	2:28	8:06	14:40	10.8	0.3	11.0	0.1		S	6	3:31	9:03	15:41	10.6	0.6	11.0					
	W	7	2:58	8:35	15:08	11.0	0.3	10.9	0.2	F	7	3:00	8:40	15:11	10.8	0.3	11.0	0.1		M	7	4:11	9:48	16:27	10.4	0.9	10.8					
	Th	8	3:20	9:04	15:32	10.9	0.2	10.8	0.2	S	8	3:34	9:16	15:53	10.6	0.5	10.8	0.4		Tu	8	5:00	10:37	17:16	10.1	1.5	10.4					
	F	9	3:50	9:37	16:00	10.7	0.5	10.6	0.5	S	9	4:13	9:56	16:27	10.3	1.0	10.4	0.9		W	9	5:54	11:35	18:12	9.7	2.2	10.0					
	S	10	4:23	10:14	16:35	10.4	1.0	10.2	1.1	M	10	4:58	10:42	17:13	9.8	1.8	9.9	1.6		Th	10	0:26	6:55	12:46	1.7	9.4	2.7					
S	11	5:01	10:55	17:16	9.9	1.8	9.8	1.8	Tu	11	5:51	11:40	18:11	9.3	2.6	9.4			F	11	1:39	8:08	14:08	2.1	9.2	2.9						
M	12	5:50	11:50	18:10	9.2	2.7	9.2		W	12	0:33	7:00	12:58	0.33	7.00	3.3	9.0		S	12	2:50	9:17	15:25	2.1	9.3	2.6						
Tu	13	0:40	6:58	13:05	2.7	8.6	3.5	8.7	Th	13	1:58	8:26	14:35	2.7	8.6	3.4	9.2		S	13	4:00	10:27	16:28	1.8	9.7	2.0						
W	14	2:08	8:35	14:50	3.1	8.2	3.8	8.7	F	14	3:21	9:53	15:54	2.4	9.0	2.8	9.8		M	14	4:58	11:28	17:22	1.4	10.3	1.4						
Th	15	3:48	10:20	16:20	2.8	8.7	3.0	9.6	S	15	4:30	11:01	16:54	1.7	9.9	1.8	10.7		Tu	15	5:47	12:20	18:10	1.0	11.0	0.8						
F	16	4:56	11:31	17:18	1.7	9.8	1.8	10.8	S	16	5:23	11:56	17:45	0.8	10.8	0.9		W	16	0:47	6:32	13:09	11.1	0.7	11.5							
S	17	5:48	12:24	18:08	0.6	11.0	0.7		M	17	0:13	6:10	12:43	0.13	6.10	12.43	18.30		Th	17	1:38	7:14	13:54	11.4	0.6	11.8						
S	18	0:40	6:34	13:08	12.0	-0.4	12.0	-0.3	Tu	18	1:02	6:52	13:26	12.1	-0.3	12.2	-0.5		F	18	2:23	7:55	14:36	11.4	0.6	11.8						
M	19	1:25	7:18	13:50	12.8	-1.0	12.7	-1.1	W	19	1:50	7:32	14:08	12.3	-0.6	12.4	-0.6		S	19	3:06	8:34	15:18	11.1	0.9	11.6						
Tu	20	2:08	7:56	14:30	18.2	-1.3	18.0	-1.3	Th	20	2:34	8:11	14:50	12.3	-0.3	12.3	-0.6		S	20	3:50	9:12	16:00	10.7	1.3	11.2						
W	21	2:50	8:35	15:08	13.1	-1.1	12.8	-1.1	F	21	3:17	8:50	15:31	11.8	0.2	11.9	0.0		M	21	4:32	9:51	16:41	10.1	1.8	10.7						
Th	22	3:33	9:14	15:50	12.6	-0.6	12.3	-0.5	S	22	4:00	9:30	16:15	11.1	0.8	11.3	0.7		Tu	22	5:12	10:30	17:21	9.5	2.4	10.0						
F	23	4:15	9:54	16:30	11.8	0.3	11.5	0.3	S	23	4:45	10:10	16:56	10.3	1.7	10.6	1.6		W	23	5:55	11:14	18:04	9.0	3.0	9.3						
S	24	5:00	10:36	17:14	10.8	1.4	10.5	1.4	M	24	5:35	10:56	17:45	9.4	2.6	9.6	2.6		Th	24	6:36	12:04	18:47	8.5	3.5	8.8						
S	25	5:49	11:21	18:04	9.7	2.6	9.5		Tu	25	6:26	11:49	18:37	8.7	3.5	8.9		F	25	0:51	7:21	13:05	8.2	8.1	8.9							
M	26	0:04	6:50	12:21	2.6	8.6	3.8	8.6	W	26	0:45	7:28	13:01	3.3	8.0	4.2	8.4		S	26	1:48	8:13	14:15	3.5	8.0	4.0						
Tu	27	1:25	8:10	13:58	3.6	7.8	4.5	8.2	Th	27	2:06	8:40	14:33	3.7	7.8	4.4	8.2		S	27	2:50	9:14	15:21	3.6	8.0	3.9						
W	28	3:06	9:54	15:51	4.0	7.7	4.3	8.3	F	28	3:16	9:54	15:51	3.7	7.9	4.1	8.4		M	28	3:50	10:13	16:14	3.4	8.4	3.4						
Th	29	4:25	11:10	16:57	3.8	8.2	3.9	8.8	S	29	4:13	10:51	16:39	4.13	10.51	16.39	23.00		Tu	29	4:37	11:08	17:01	3.0	8.9	2.7						
F	30	5:08	11:58	17:36	3.1	8.9	3.3	9.4	S	30	4:56	11:33	17:14	3.4	8.3	3.6	8.8		W	30	5:21	11:56	17:48	2.3	9.6	1.9						
									M	31	5:30	12:08	17:46	2.5	9.4	2.4																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it. In order to refer the above heights to the plane used upon the Portuguese Charts of Lisbon Harbor add 1.4 feet to each. A foot is about three-tenths of a meter.

The time used is Portuguese Standard, for the meridian 9° 11' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15.47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.											
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.					W.	Mo.					W.	Mo.							
☾	Th	1	0:22 9.6	6:02 1.7	12:45 10.3	18:30 1.1	☉	S	1	1:43 10.9	7:16 0.5	13:58 11.8	19:47 -0.4	P	W	1	2:50 12.5	8:30 -1.1	15:06 13.3	20:58 -1.4	
	F	2	1:11 10.2	6:45 1.1	13:29 11.0	19:15 0.5		M	2	2:27 11.5	8:00 0.0	14:41 12.4	20:32 -0.7	E	Th	2	3:30 12.6	9:11 -1.1	15:51 13.2	21:40 -1.1	
	S	3	1:55 10.6	7:28 0.6	14:10 11.4	19:59 0.0		Tu	3	3:10 11.8	8:45 -0.3	15:24 12.6	21:17 -0.9		F	3	4:10 12.3	9:55 -0.7	16:30 12.6	22:24 -0.5	
	S	4	2:48 10.9	8:11 0.3	14:52 11.7	20:44 -0.2	P	W	4	3:51 11.8	9:31 -0.3	16:08 12.5	22:02 -0.6		S	4	4:51 11.7	10:40 0.0	17:15 11.6	23:10 0.6	
	M	5	3:21 11.0	8:55 0.3	15:36 11.8	21:30 -0.2		Th	5	4:34 11.6	10:16 0.0	16:51 12.1	22:50 -0.1		S	5	5:36 10.8	11:30 1.0	18:05 10.6		
	Tu	6	4:05 11.0	9:43 0.5	16:26 11.7	22:18 0.1	E	F	6	5:19 11.2	11:05 0.6	17:39 11.4	23:41 0.7	☾	M	6	6:01 1.8	6:28 9.9	12:31 2.1	19:05 9.5	
	P	W	7	4:51 10.8	10:34 0.9	17:09 11.3	23:11 0.6		S	7	6:06 10.6	11:59 1.4	18:30 10.6			Tu	7	7:09 3.0	7:34 9.0	13:53 3.0	20:29 8.6
	Th	8	5:41 10.5	11:27 1.4	18:00 10.8		☾	S	8	6:58 1.6	6:59 9.9	13:02 2.2	19:30 9.7	N	W	8	2:42 3.6	9:08 8.5	15:29 3.4	22:16 8.4	
	E	F	9	6:09 1.1	6:34 10.1	12:28 2.0	18:55 10.3		M	9	7:44 2.5	8:06 9.3	14:19 2.8	20:48 9.1		Th	9	4:18 3.6	10:41 8.9	16:54 3.1	23:41 9.0
	☾	S	10	1:12 1.7	7:32 9.6	13:30 2.4	19:59 9.8		Tu	10	8:04 3.0	9:30 8.9	15:42 3.0	22:21 8.9		F	10	5:25 3.2	11:50 9.7	17:56 2.5	
	☾	S	11	2:19 2.1	8:41 9.4	14:54 2.6	21:14 9.5		W	11	4:24 3.1	10:54 9.2	16:59 2.7	23:43 9.3		S	11	6:36 9.8	6:12 2.7	12:41 10.5	18:40 2.0
		M	12	3:30 2.3	9:57 9.3	16:04 2.5	22:33 9.5	N	Th	12	5:26 2.8	12:00 9.9	17:58 2.2			S	12	1:17 10.4	6:52 2.2	13:21 11.1	19:13 1.5
Tu		13	4:36 2.2	11:07 9.7	17:06 2.1	23:44 10.0		F	13	6:42 9.9	6:18 2.5	12:53 10.7	18:46 1.8		M	13	1:51 10.8	7:24 1.8	13:57 11.5	19:42 1.2	
W		14	5:30 2.0	12:06 10.4	18:00 1.6			S	14	7:30 10.5	7:00 2.1	13:37 11.2	19:26 1.4	☾	Tu	14	2:21 11.1	7:48 1.3	14:23 11.6	20:06 0.9	
Th		15	6:48 10.4	6:20 1.8	13:00 11.0	18:48 1.3	☾	S	15	2:10 10.8	7:36 1.7	14:16 11.6	20:02 1.1		W	15	2:47 11.0	8:12 1.0	14:54 11.4	20:30 0.8	
F		16	7:34 10.8	7:04 1.5	13:45 11.4	19:32 1.0		M	16	2:45 11.0	8:10 1.4	14:50 11.6	20:34 1.0	E	Th	16	3:08 10.8	8:36 0.9	15:19 11.1	20:53 0.7	
S		17	2:18 11.0	7:45 1.4	14:27 11.6	20:14 0.9		Tu	17	3:15 10.8	8:38 1.2	15:22 11.4	21:01 1.0		F	17	3:26 10.5	9:02 0.7	15:38 10.7	21:18 0.7	
S		18	2:58 10.9	8:21 1.3	15:06 11.6	20:52 1.0		W	18	3:41 10.5	9:05 1.2	15:50 11.0	21:30 1.1		S	18	3:49 10.3	9:30 0.8	16:00 10.3	21:48 1.0	
M		19	3:36 10.6	8:56 1.4	15:44 11.3	21:27 1.1	A	Th	19	4:06 10.2	9:34 1.3	16:15 10.6	21:57 1.2		S	19	4:08 10.1	10:01 1.1	16:25 10.0	22:18 1.4	
Tu		20	4:10 10.3	9:30 1.6	16:18 10.8	22:00 1.4	E	F	20	4:25 9.9	10:02 1.5	16:39 10.1	22:26 1.5		M	20	4:38 9.9	10:40 1.6	17:00 9.6	22:56 2.0	
☾		W	21	4:42 9.8	10:05 1.9	16:50 10.3	22:36 1.7		S	21	4:50 9.7	10:36 1.8	17:03 9.7	23:00 1.9		Tu	21	5:12 9.5	11:26 2.3	17:39 9.1	23:44 2.8
		Th	22	5:11 9.4	10:40 2.3	17:20 9.7	23:11 2.1		S	22	5:18 9.4	11:15 2.2	17:34 9.3	23:40 2.5	☾	W	22	5:59 9.0	12:28 3.0	18:36 8.5	
	F	23	5:40 9.1	11:18 2.7	17:51 9.2	23:51 2.6		M	23	5:53 9.2	12:01 2.8	18:15 8.9			Th	23	6:55 3.7	7:10 8.4	13:50 3.5	20:04 8.0	
	S	24	6:11 8.8	12:02 3.1	18:26 8.8		☾	Tu	24	6:30 3.1	6:41 8.8	13:05 8.3	19:10 8.5		F	24	2:33 4.0	8:48 8.3	15:28 3.3	22:08 8.5	
	S	25	6:37 3.0	6:50 8.6	12:57 3.5	19:10 8.5		W	25	7:38 3.7	7:48 8.4	14:28 3.6	20:36 8.1		S	25	4:05 3.3	10:34 9.0	16:46 2.2	23:26 9.3	
	M	26	7:34 3.4	7:42 8.3	14:04 3.7	20:10 8.2		Th	26	8:06 3.7	9:21 8.3	15:55 3.2	22:23 8.3		S	26	5:10 2.2	11:42 10.3	17:41 0.9		
	Tu	27	2:40 3.6	8:52 8.3	15:16 3.6	21:28 8.2	S	F	27	4:23 3.2	10:56 9.0	17:01 2.3	23:45 9.2		M	27	6:20 10.6	6:00 1.0	12:35 11.7	18:29 -0.2	
	W	28	3:46 3.3	10:11 8.5	16:22 3.0	22:58 8.5		S	28	5:23 2.2	12:03 10.2	17:58 1.1			Tu	28	7:05 11.7	6:46 -0.1	13:20 12.7	19:11 -1.1	
	Th	29	4:47 2.8	11:23 9.2	17:20 2.2			S	29	6:40 10.3	6:17 1.2	12:55 11.4	18:47 0.0	☾	W	29	7:46 12.6	7:28 -1.0	14:08 13.3	19:52 -1.5	
	F	30	6:00 9.3	6:41 2.0	12:22 10.2	18:13 1.2		M	30	7:27 11.3	7:03 0.2	13:41 12.4	19:31 -0.8	E	Th	30	2:26 13.0	8:10 -1.5	14:44 13.5	20:33 -1.6	
	S	31	6:56 10.1	6:30 1.2	13:12 11.1	19:01 0.3	☉	Tu	31	2:10 12.1	7:47 -0.6	14:45 13.1	20:15 -1.3								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it. In order to refer the above heights to the plane used upon the Portuguese Charts of Lisbon Harbor, add 1.4 feet to each. A foot is about three-tenths of a meter.

The time used is Portuguese Standard, for the meridian 9° 11' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☾, new moon; ☽, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 2.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Aden Mean Local Civil, for the meridian 44° 59' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.				FEBRUARY.				MARCH.			
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
N O	F 1	4:56	11:42	17:36	...	M A	M 1	0:48	6:58	13:21	19:21
	S 2	0:13	6:08	12:39	18:43		Tu 2	1:38	7:58	14:10	20:19
	S 3	1:01	7:12	13:26	19:42		W 3	2:21	8:49	14:56	21:04
	M 4	1:46	8:11	14:16	20:32		Th 4	3:06	9:31	15:31	21:45
	Tu 5	2:30	9:01	15:00	21:18		F 5	3:44	10:11	16:08	22:25
	W 6	3:11	9:45	15:36	22:01		S 6	4:17	10:48	16:30	23:00
	Th 7	3:51	10:27	16:12	22:40		S 7	4:44	11:25	16:47	23:39
	F 8	4:21	11:07	16:40	23:21		M 8	5:01	12:00	17:06	...
	S 9	4:51	11:46	17:04	...		Tu 9	0:12	5:21	12:35	17:30
	S 10	0:00	5:19	12:25	17:26		W 10	0:48	5:46	13:09	17:59
A E	M 11	0:38	5:42	13:04	17:54	C S	Th 11	1:24	6:13	13:48	18:40
	Tu 12	1:19	6:10	13:41	18:26		F 12	2:03	6:52	14:27	19:18
	W 13	1:56	6:46	14:24	19:10		S 13	2:46	7:40	15:16	20:16
	Th 14	2:42	7:31	15:11	20:11		S 14	3:41	8:49	16:19	22:00
	F 15	3:33	8:38	16:05	22:10		M 15	4:52	10:53	17:20	23:45
	S 16	4:35	10:30	17:05	23:26		Tu 16	6:07	12:18	18:48	...
	S 17	5:41	11:41	18:07	...		W 17	0:50	7:23	13:20	19:56
	M 18	0:23	6:44	12:41	19:17		Th 18	1:45	8:25	14:15	20:49
	Tu 19	1:13	7:50	13:38	20:16		F 19	2:32	9:15	14:58	21:35
	W 20	2:01	8:45	14:28	21:07		S 20	3:18	10:00	15:40	22:19
S P	Th 21	2:42	9:33	15:05	21:54	E M	S 21	3:56	10:44	16:20	23:00
	F 22	3:21	10:16	15:46	22:36		M 22	4:36	11:26	16:57	23:42
	S 23	4:04	11:01	16:29	23:19		Tu 23	5:16	12:07	17:33	...
	S 24	4:44	11:46	17:09	...		W 24	0:24	5:58	12:49	18:14
	M 25	0:01	5:25	12:29	17:51		Th 25	1:06	6:40	13:34	18:54
	Tu 26	0:45	6:10	13:14	18:39		F 26	1:51	7:30	14:20	19:50
	W 27	1:29	7:00	14:00	19:31		S 27	2:43	9:09	15:15	21:45
	Th 28	2:17	8:09	14:51	21:06		S 28	3:45	11:00	16:20	23:27
	F 29	3:13	9:52	15:49	22:36						
	S 30	4:19	11:18	16:56	23:48						
D	S 31	5:35	12:25	18:15	...						
		3.5	12.4	3.7	...						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil for the meridian 2° 20' E; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon, for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
A E O	Th	1	1:24 12.2	7:15 3.5	13:58 12.4	19:38 3.5	A	S	1	1:24 12.6	7:25 8.0	13:45 12.9	19:48 2.9	O S C P N D A E	Tu	1	1:40 13.5	8:06 2.0	13:56 13.8	20:32 1.7									
	F	2	1:58 12.9	8:06 2.5	14:20 13.3	20:23 2.3	E	S	2	1:51 13.2	8:06 2.1	14:10 13.6	20:28 1.8		W	2	2:11 14.0	8:49 1.3	14:28 14.4	21:14 1.0									
	S	3	2:29 13.8	8:45 1.5	14:50 13.9	21:01 1.3	M	3	2:24 14.1	8:46 1.2	14:38 14.1	21:06 1.0	Th		3	2:39 14.3	9:30 0.7	14:55 14.8	21:55 0.5										
	S	4	3:00 14.5	9:20 0.6	15:11 14.3	21:38 0.4	Tu	4	2:48 14.5	9:21 0.5	14:59 14.6	21:42 0.3	O		F	4	3:09 14.6	10:11 0.4	15:25 15.1	22:35 0.1									
	M	5	3:24 14.9	9:55 0.0	15:32 14.6	22:11 -0.1	O	W	5	3:09 14.8	9:58 0.1	15:20 15.0			22:20 -0.1	S	5	3:40 14.7	10:51 0.4	15:58 15.3	23:17 0.0								
	Tu	6	3:42 15.1	10:30 -0.3	15:50 14.9	22:48 -0.3	Th	6	3:32 15.0	10:35 0.0	15:46 15.2	22:57 -0.1	S		6	4:18 14.5	11:33 0.6	16:34 15.0	23:59 0.2										
	W	7	4:08 15.2	11:03 -0.3	16:16 15.1	23:20 -0.2	F	7	4:01 15.0	11:13 0.2	16:15 15.2	23:34 0.1	M		7	4:49 14.1	12:15 1.1	17:12 14.6	0.0										
	Th	8	4:25 15.2	11:38 0.0	16:39 15.0	23:55 0.2	S	8	4:31 14.7	11:51 0.7	16:46 15.0	23:57 0.0	Tu		8	0:45 0.6	5:41 13.4	13:01 1.6	17:56 14.0										
	F	9	4:51 14.9	12:14 0.7	17:05 14.8	0.0	S	9	0:13 0.7	5:06 14.2	12:31 1.4	17:21 14.4	W		9	1:31 1.2	6:32 12.6	13:50 2.2	18:50 13.2										
	S	10	0:31 0.8	5:24 14.4	12:50 1.5	17:39 14.3	M	10	0:58 1.3	5:46 13.3	13:15 2.3	18:01 13.6	Th		10	2:23 1.7	7:49 12.0	14:43 2.7	20:06 12.7										
S C P N D	S	11	1:11 1.7	5:59 13.6	13:31 2.5	18:18 13.4	Tu	11	1:44 2.0	6:34 12.4	14:05 3.1	18:53 12.7	C E P N D A E	F	11	3:21 2.1	10:00 12.0	15:43 3.0	22:06 12.7										
	M	12	1:56 2.6	6:45 12.5	14:20 3.5	19:06 12.4	C	W	12	2:39 2.7	7:41 11.5	15:08 3.7		20:10 11.9	S	12	4:24 2.3	11:10 12.5	16:50 2.9	23:22 13.3									
	Tu	13	2:51 3.4	7:45 11.3	15:20 4.3	20:19 11.3		Th	13	3:41 3.1	10:25 11.4	16:11 4.0		22:31 12.0	S	13	5:29 2.2	12:01 13.2	18:00 2.4	0.0									
	W	14	3:59 3.8	10:20 11.0	16:39 4.6	22:40 11.5	F	14	4:54 3.0	11:40 12.2	17:25 3.5	23:49 13.1		M	14	0:17 13.9	6:31 1.8	12:49 14.1	19:00 1.6										
	Th	15	5:17 3.7	11:59 11.8	17:58 4.0	0.0	S	15	6:00 2.3	12:30 13.4	18:34 2.4	0.0		Tu	15	1:06 14.7	7:30 1.0	13:35 14.9	20:00 0.6										
	F	16	0:11 12.6	6:29 2.7	12:51 13.8	19:04 2.5	E	S	16	0:41 14.1	7:04 1.8	13:14 14.6		19:30 1.0	W	16	1:58 15.2	8:25 0.4	14:19 15.3	20:50 -0.2									
	S	17	1:06 14.0	7:34 1.2	13:41 14.6	20:00 0.8		M	17	1:30 15.2	7:59 0.1	14:00 15.5		20:23 -0.3	Th	17	2:43 15.3	9:12 -0.1	14:58 15.6	21:40 -0.7									
	S	18	1:55 15.5	8:28 -0.4	14:26 15.7	21:49 -0.7	Tu	18	2:16 16.2	8:48 -0.8	14:40 16.1	21:11 -1.2		F	18	3:25 15.1	9:58 -0.3	15:40 15.5	22:25 -0.8										
	M	19	2:39 16.8	9:14 -1.6	15:02 16.4	21:34 -1.8	W	19	2:57 16.4	9:38 -1.3	15:15 16.2	21:56 -1.7		S	19	4:06 14.6	10:40 -0.1	16:30 15.1	23:09 -0.5										
	Tu	20	3:19 17.3	9:58 -2.2	15:37 16.7	22:16 -2.5	Th	20	3:36 16.2	10:15 -1.3	15:51 16.2	22:40 -1.7		S	20	4:45 13.9	11:24 0.3	16:55 14.6	23:54 0.0										
W Th F S M Tu W Th F S M Tu																													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.							AUGUST.							SEPTEMBER.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
C	Th	1	1:38	8:16	13:58	20:46	○	S	1	2:45	9:32	15:00	21:58	P	W	1	3:55	10:37	16:08	23:05
			13.4	2.0	14.0	1.5			14.3	0.5	15.3	—0.4			16.0	—1.7	17.1	—2.3		
	F	2	2:15	9:06	14:34	21:34		M	2	3:25	10:17	15:40	22:42	E	Th	2	4:32	11:20	16:48	23:45
			13.8	1.2	14.6	0.6			14.8	—0.3	16.0	—1.2			16.1	—2.0	16.9	—2.0		
	S	3	2:52	9:50	15:10	22:16		Tu	3	4:05	10:58	16:22	23:25		F	3	5:10	12:00	17:27	24:00
P			14.3	0.6	15.1	0.0			15.2	—0.8	16.2	—1.6			15.8	—1.7	16.8	—1.6		
	S	4	3:30	10:34	15:48	23:00	P	W	4	4:46	11:40	17:05	24:00		S	4	0:28	5:48	12:44	18:08
			14.5	0.2	15.4	—0.4			15.1	—0.9	16.1	—1.6			—1.4	15.1	—0.9	15.2		
	M	5	4:10	11:18	16:27	23:42		Th	5	0:08	5:30	12:25	17:46		S	5	1:10	6:30	13:30	18:55
			14.6	0.1	15.4	—0.6			—1.4	14.8	—0.7	15.6			—0.2	14.2	0.3	14.0		
E	Tu	6	4:54	12:00	17:08	24:00	E	F	6	0:54	6:14	13:08	18:34	☾	M	6	1:56	7:11	14:21	20:10
			14.3	0.2	15.1	—0.5			—0.9	14.3	—0.2	14.9			1.2	13.1	1.5	12.6		
	W	7	0:29	5:39	12:45	17:54		S	7	1:40	7:00	13:55	19:28		Tu	7	2:50	8:54	15:20	22:30
			—0.3	13.9	0.5	14.7			0.0	13.6	0.7	14.0			2.6	11.9	2.8	11.6		
	Th	8	1:14	6:30	13:30	18:46	☾	S	8	2:25	8:12	14:46	20:58	N	W	8	3:52	11:00	16:34	23:50
C			0.0	13.3	1.0	14.1			1.0	12.9	1.7	13.0			3.8	11.4	3.7	11.5		
	F	9	2:04	7:38	14:20	19:54		M	9	3:20	9:52	15:47	22:34		Th	9	5:10	12:10	18:00	24:00
			0.6	12.9	1.5	13.5			2.1	12.3	2.6	12.4			4.4	11.9	3.8	—		
	S	10	2:55	9:18	15:15	21:35		Tu	10	4:20	11:12	16:58	23:50		F	10	0:55	6:30	13:10	19:16
			1.3	12.5	2.1	13.0			3.1	12.0	3.2	12.4			12.0	4.0	12.6	3.0		
N	S	11	3:52	10:32	16:16	22:54		W	11	5:35	12:18	18:16	24:00		S	11	1:45	7:37	13:55	20:10
			2.0	12.5	2.5	13.0			3.6	12.4	3.2	—			12.8	3.0	13.4	2.0		
	M	12	4:55	11:35	17:28	23:54	N	Th	12	0:50	6:48	13:10	19:27		S	12	2:25	8:24	14:34	20:55
			2.4	12.8	2.7	—			12.7	3.3	12.9	2.6			13.8	1.9	14.4	1.0		
	Tu	13	0:00	6:05	12:30	18:35		F	13	1:44	7:50	13:58	20:24		M	13	3:00	9:05	15:08	21:30
P			13.3	2.6	13.2	2.4			13.8	2.5	13.7	1.6	●	Tu	14	3:27	9:44	15:42	22:08	
	W	14	0:52	7:06	13:16	19:40		S	14	2:34	8:40	14:44	21:12			14.5	0.2	15.2	—0.3	
			13.7	2.2	13.9	1.7			13.8	1.6	14.5	0.7			14.5	0.2	15.2	—0.3		
	Th	15	1:45	8:05	14:05	20:35		S	15	3:16	9:26	15:25	21:54		W	15	3:50	10:20	16:04	22:40
			14.1	1.6	14.5	0.8			14.1	0.8	15.0	0.1			14.5	—0.3	15.1	—0.4		
A	F	16	2:36	8:54	14:50	21:25	●	M	16	3:48	10:05	16:00	22:31	E	Th	16	4:10	10:56	16:20	23:16
			14.3	1.0	14.9	0.1			14.2	0.2	15.0	—0.3			14.5	—0.3	14.9	—0.2		
	S	17	3:20	9:40	15:34	22:10		Tu	17	4:17	10:44	16:30	23:09		F	17	4:28	11:30	16:40	23:50
			14.3	0.4	15.0	—0.2			14.0	0.0	14.9	—0.2			14.4	0.0	14.6	0.3		
	S	18	4:00	10:25	16:12	22:52		W	18	4:40	11:22	16:54	23:45		S	18	4:48	12:08	17:00	—
D			14.1	0.2	14.9	—0.3			13.9	0.1	14.5	0.1			14.3	0.6	14.3	—		
	M	19	4:36	11:05	16:50	23:38	A	Th	19	4:58	11:58	17:15	—		S	19	0:22	5:12	12:42	17:24
			13.7	0.3	14.6	0.0	E		13.6	0.5	14.1	—			1.0	14.0	1.3	13.9		
	Tu	20	5:08	11:46	17:20	—		F	20	0:20	5:20	12:35	17:40		M	20	1:00	5:40	13:13	18:00
			13.3	0.6	14.1	—			0.6	13.3	1.0	13.6			1.9	13.7	2.2	13.2		
A	W	21	0:12	5:34	12:25	17:46		S	21	0:56	5:45	13:12	18:00		Tu	21	1:38	6:16	14:00	18:38
			0.5	12.8	1.1	13.5			1.4	13.0	1.8	13.2			2.9	13.0	3.2	12.3		
	Th	22	0:50	5:58	13:06	18:11		S	22	1:34	6:18	13:50	18:34	☽	W	22	2:24	7:06	14:52	19:34
			1.1	12.3	1.8	12.9			2.2	12.8	2.6	12.6			3.8	12.0	4.0	11.3		
	F	23	1:32	6:26	13:46	18:43		M	23	2:12	6:58	14:34	19:17	s	Th	23	3:20	8:06	15:56	21:20
D			1.9	11.9	2.5	12.4			3.0	12.2	3.5	11.9			4.7	11.1	4.5	10.5		
	S	24	2:10	7:02	14:28	19:24	☽	Tu	24	2:58	7:48	15:25	20:18		F	24	4:35	10:45	17:15	23:55
			2.6	11.6	3.2	11.8			3.9	11.5	4.2	11.1			5.0	10.9	4.4	11.3		
	S	25	2:55	7:56	15:15	20:20		W	25	3:55	9:25	16:34	22:20		S	25	6:00	12:12	18:30	—
			3.4	11.2	3.9	11.3			4.6	10.9	4.7	10.8			4.5	11.9	3.4	—		
S	M	26	3:44	9:40	16:10	22:00		Th	26	5:05	11:25	17:38	23:56		S	26	0:50	7:04	13:04	19:34
			4.0	11.0	4.4	11.1			4.8	11.2	4.5	11.5			12.6	8.1	13.3	1.7		
	Tu	27	4:42	11:05	17:18	23:18	s	F	27	6:15	12:28	18:55	—		M	27	1:38	8:00	13:52	20:28
			4.3	11.2	4.5	11.3			4.3	12.0	3.5	—			14.0	1.4	14.9	0.0		
	W	28	5:35	12:00	18:18	—		S	28	0:56	7:27	13:22	19:58		Tu	28	2:22	8:48	14:32	21:14
S			4.8	11.8	4.2	—			12.6	3.1	13.2	1.9			15.3	—0.3	16.5	—1.4		
	Th	29	0:17	6:45	12:50	19:25		S	29	1:52	8:24	14:10	20:50	☽	W	29	3:00	9:34	15:12	21:56
			12.0	3.7	12.6	3.2			13.7	1.6	14.8	0.4			16.2	—1.6	17.3	—2.3		
	F	30	1:14	7:48	13:38	20:21		M	30	2:35	9:12	14:50	21:30		Th	30	3:35	10:16	15:50	22:38
			12.8	2.7	13.6	1.9			14.7	0.1	15.9	—1.0			16.7	—2.4	17.6	—2.6		
	S	31	2:02	8:44	14:20	21:12	○	Tu	31	3:16	9:58	15:30	22:20							
			13.6	1.5	14.5	0.6			15.5	—1.0	16.7	—1.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day, a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15.47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.							W.		Mo.							W.	Mo.													
N C	F	1	4:10	10:56	16:30	23:20	16.8	-2.5	17.2	-2.2	M	1	5:00	12:04	17:25	15.7	-1.0	14.6	W	1	0.04	5.25	12.34	17.55	0.4	14.5	0.2	12.8				
	S	2	4:45	11:38	17:05		16.4	-2.0	16.4		N	Tu	2	0:22	5:37	12:50	18:06	0.3	14.5	0.3	13.1	Th	2	0:48	6:00	13:20	18:47	1.6	13.3	1.4	11.7	
	S	3	0:02	5:20	12:24	17:45	-1.3	15.6	-1.2	15.1	W	3	1:08	6.10	13:40	18:56	1.7	13.1	1.7	11.6	F	3	1:35	6:47	14.10	21.27	2.6	12.2	2.5	10.9		
	M	4	0:45	5:55	13:10	18:28	0.0	14.5	0.2	13.5	C	Th	4	2:00	7:02	14.36	22:10	3.1	11.8	2.9	10.7	C	S	4	2:28	9:39	15.06	22:42	3.7	11.4	3.3	10.3
	Tu	5	1:30	6:36	14:00	19:20	1.5	13.1	1.7	12.0	F	5	2:55	10:28	15:40	23:22	4.3	11.2	3.8	10.9	S	5	3:25	10:54	16.08	23:55	4.4	11.5	3.9	11.2		
	W	6	2:24	7:34	14:58	22:25	3.1	11.7	3.0	11.0	S	6	4:04	11:35	16:56	4.8	11.8	4.1	M	6	4:30	11:44	17:14	4.6	11.8	4.0						
	Th	7	3:22	10:50	16:10	23:44	4.3	11.2	4.0	11.1	S	7	0:18	5:25	12:27	18:10	11.6	4.6	12.4	3.7	Tu	7	0:20	5:40	12:28	18:16	11.6	4.3	12.1	3.7		
	F	8	4:40	12:00	17:34		4.9	11.8	4.1		M	8	1:02	6:38	13:10	19:06	12.8	3.9	12.9	3.0	W	8	0:56	6:45	13:02	19:08	12.1	3.7	12.5	3.2		
	S	9	0:44	6:05	12:58	18:50	11.8	4.5	12.6	3.3	A	Tu	9	1:38	7:30	13:44	19:52	13.0	2.8	13.4	2.1	Th	9	1:24	7:35	13:34	19:52	12.9	2.9	13.2	2.4	
	S	10	1:32	7:12	13:40	19:46	12.6	3.4	13.3	2.4	W	10	2:00	8:10	14:12	20:30	13.8	1.8	14.2	1.3	F	10	1:55	8:20	14:06	20:33	13.6	2.0	13.7	1.6		
M	11	2:04	8:00	14:12	20:26	13.5	2.2	14.0	1.4	Th	11	2:30	8:50	14:40	21:06	14.2	1.0	14.5	0.7	S	11	2:20	9:00	14:34	21:15	14.1	1.3	14.0	1.0			
Tu	12	2:35	8:42	14:44	21:02	14.2	1.1	14.8	0.5	F	12	2:50	9:25	15:00	21:40	14.6	0.4	14.6	0.3	S	12	2:47	9:40	15:00	21:55	14.6	0.7	14.2	0.6			
W	13	3:00	9:20	15:10	21:36	14.5	0.3	15.0	0.0	S	13	3:12	10:05	15:24	22:18	14.9	0.1	14.7	0.2	M	13	3:15	10:20	15:30	22:34	14.9	0.3	14.5	0.7			
Th	14	3:20	9:55	15:30	22:10	14.8	-0.2	15.1	-0.3	S	14	3:32	10:42	15:46	22:55	15.1	0.1	14.7	0.4	S	Tu	14	3:45	11:00	16:00	23:15	15.1	0.1	14.4	0.6		
F	15	3:40	10:30	15:50	22:45	14.9	-0.3	15.0	-0.1	M	15	4:00	11:18	16:14	23:30	15.1	0.4	14.5	1.0	W	15	4:16	11:40	16:36	23:54	15.1	0.2	14.1	0.9			
S	16	3:57	11:05	16:10	23:20	15.0	-0.1	14.8	0.3	Tu	16	4:26	11:55	16:45		15.0	0.8	14.2		Th	16	4:50	12:22	17:16		14.8	0.6	13.7				
S	17	4:20	11:40	16:35	23:54	14.9	0.4	14.9	1.0	S	W	17	0:10	4:58	12:36	17:20	1.5	14.5	1.4	18.5	F	17	0:36	5:30	13:18	18:00	1.4	14.3	1.0	13.0		
M	18	4:45	12:16	17:00		14.8	1.1	14.1		Th	18	0:54	5:38	13:22	18:04	2.3	13.8	2.1	12.5	S	18	1:22	6:14	13:55	18:54	2.0	13.7	1.5	12.3			
Tu	19	0:30	5:17	12:58	17:35	1.8	14.3	2.0	13.5	F	19	1:40	6:20	14:14	18:56	3.1	12.9	2.8	11.7	S	19	2:12	7:10	14:50	20:16	2.5	13.0	2.0	11.8			
W	20	1:10	5:50	13:38	18:15	2.8	13.5	2.8	12.5	D	S	20	2:32	7:18	15:12	20:42	3.7	12.1	3.2	11.0	M	20	3:08	8:34	15:50	22:30	3.0	12.5	2.4	12.0		
Th	21	1:56	6:36	14:30	19:07	3.7	12.5	3.6	11.4	S	21	3:38	8:12	16:20	23:20	4.1	11.6	3.2	11.7	Tu	21	4:15	10:34	16:55	23:35	3.2	12.7	2.5	12.6			
F	22	2:55	7:34	15:35	20:50	4.5	11.4	4.1	10.5	M	22	4:50	11:18	17:30		3.8	12.5	2.7		W	22	5:25	11:47	17:58		2.9	13.4	2.3				
S	23	4:08	10:04	16:52	22:42	4.8	11.0	4.0	11.3	E	Tu	23	0:10	6:02	12:14	18:34	12.8	2.9	13.7	1.8	P	Th	23	0:25	6:32	12:42	19:04	13.5	2.1	14.1	1.7	
S	24	5:28	11:49	18:00		4.3	12.2	3.1		W	24	0:54	7:02	13:02	19:30	14.1	1.5	14.7	0.7	F	24	1:14	7:32	13:34	20:00	14.4	1.2	15.0	0.7			
M	25	0:35	6:38	12:42	19:05	12.8	3.0	13.6	1.7	P	Th	25	1:36	7:57	13:51	20:22	15.2	0.2	16.0	-0.5	S	25	1:59	8:30	14:25	20:55	15.2	0.1	15.3	0.0		
Tu	26	1:18	7:32	13:28	20:00	14.3	1.3	15.0	0.0	F	26	2:18	8:47	14:35	21:10	16.0	-0.9	16.5	-1.2	C	S	26	2:42	9:20	15:08	21:36	15.7	-0.8	15.4	-0.4		
W	27	2:00	8:20	14:15	20:47	15.5	-0.3	16.5	-1.3	O	S	27	2:54	9:34	15:15	21:54	16.5	-1.7	16.5	-1.4	N	M	27	3:22	10:06	15:50	22:22	15.9	-1.2	15.2	-0.6	
Th	28	2:40	9:10	14:50	21:32	16.4	-1.6	17.2	-2.0	S	28	3:30	10:18	15:55	22:38	16.6	-1.9	16.0	-1.2	Tu	28	4:05	10:50	16:50	23:05	15.8	-1.2	14.6	-0.4			
F	29	3:15	9:54	15:30	22:16	16.9	-2.3	17.3	-2.3	N	M	29	4:08	11:04	16:35	23:20	16.2	-1.6	15.2	-0.6	W	29	4:42	11:34	17:10	23:46	15.3	-0.8	13.9	0.1		
S	30	3:48	10:36	16:10	22:58	17.0	-2.4	16.9	-1.9	Tu	30	4:45	11:50	17:14		15.4	-0.8	14.0		Th	30	5:20	12:16	17:48		14.6	-0.1	13.1				
S	31	4:25	11:20	16:47	23:40	16.5	-2.0	15.9	-1.0											F	31	0:30	5:55	13:00	18:21	0.9	13.8	0.8	12.3			

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The time used is Paris Mean Civil for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon, all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon: for instance, 15:47 is 3:47 p. m. ●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator, N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
N C	F 1	5:32 4.5	11:51 15.7	18:11 4.0		M 1	1:00 14.9	7:30 4.5	13:33 15.0	20:03 4.2	N	M 1	5:38 5.7	12:06 13.7	18:28 6.0		
	S 2	0:25 15.5	6:45 3.9	12:54 16.0	19:20 3.6	N	Tu 2	1:58 15.5	8:35 3.5	14:30 15.5	20:58 3.2	Tu 2	0:38 14.0	7:12 5.4	13:20 13.9	19:50 5.1	
	S 3	1:22 16.0	7:49 3.2	13:49 16.4	20:18 2.9	W 3	2:50 16.3	9:25 2.5	15:18 16.2	21:44 2.3	W 3	1:45 14.7	8:22 4.3	14:20 14.7	20:45 3.9		
	M 4	2:13 16.7	8:44 2.3	14:40 16.8	21:08 2.1	Th 4	3:35 17.1	10:08 1.7	16:00 16.7	22:24 1.7	Th 4	2:38 15.7	9:12 3.1	15:05 15.6	21:30 2.7		
	Tu 5	3:00 17.4	9:33 1.5	15:26 17.2	21:53 1.6	O	F 5	4:15 17.7	10:45 1.2	16:36 17.1	23:00 1.4	F 5	3:20 16.7	9:50 2.0	15:44 16.5	22:05 1.7	
	W 6	3:43 17.8	10:17 1.0	16:09 17.4	22:34 1.4	S 6	4:50 18.0	11:20 1.1	17:10 17.2	23:32 1.4	S 6	2:58 17.5	10:25 1.3	16:15 17.3	22:40 1.1		
	Th 7	4:26 18.0	10:57 0.9	16:48 17.3	23:13 1.5	S 7	5:24 18.0	11:50 1.3	17:40 17.1		O	S 7	4:30 18.1	10:56 0.9	16:46 17.7	23:10 0.9	
	F 8	5:03 18.0	11:35 1.2	17:26 17.0	23:49 2.0	A	M 8	0:03 1.8	5:58 17.7	12:20 1.7	18:06 16.9	M 8	5:00 18.5	11:25 0.8	17:14 17.9	23:38 1.0	
	S 9	5:38 17.6	12:10 1.8	17:58 16.4		Tu 9	0:33 2.3	6:23 17.3	12:50 2.3	18:36 16.5	E	Tu 9	5:25 18.4	11:53 1.1	17:58 17.8		
	S 10	0:23 2.6	6:15 17.0	12:45 2.5	18:32 15.9	E	W 10	0:58 3.0	6:54 16.8	13:15 2.9	19:06 16.1	W 10	0:05 1.5	5:54 18.1	12:18 1.6	18:04 17.6	
	A	M 11	0:57 3.4	6:50 16.3	13:18 3.3	19:07 16.3	Th 11	1:24 3.5	7:25 16.1	13:44 3.5	19:40 15.5	Th 11	0:30 2.0	6:20 17.7	12:43 2.2	18:35 17.2	
	E C	Tu 12	1:27 4.1	7:26 16.5	13:50 4.0	19:44 14.8	F 12	1:55 4.0	8:00 15.4	14:20 4.1	20:24 14.8	F 12	0:55 2.7	6:50 17.1	13:12 2.8	19:05 16.5	
W 13		1:59 4.8	8:04 14.8	14:24 4.5	20:28 14.2	C	S 13	2:35 4.6	8:47 14.6	15:04 4.8	21:20 14.1	S 13	1:22 3.3	7:25 16.2	13:45 3.6	19:45 15.5	
Th 14		2:37 5.2	8:48 14.2	15:08 5.0	21:22 13.8	S 14	3:28 5.3	9:52 13.8	16:06 5.4	22:35 13.6	S 14	2:00 4.1	8:10 15.1	14:26 4.6	20:36 14.4		
F 15		3:25 5.6	9:46 13.8	16:02 5.4	22:24 13.7	M 15	4:45 5.9	11:15 13.7	17:35 5.9		C	M 15	2:54 5.0	9:14 13.9	15:27 5.7	21:56 13.4	
S 16		4:28 5.9	10:52 13.8	17:08 5.6	23:32 14.0	Tu 16	0:00 14.0	6:24 5.7	12:40 14.4	19:18 5.3	S	Tu 16	4:11 5.9	10:47 13.2	17:04 6.5	23:34 13.6	
S 17		5:45 5.8	12:02 14.3	18:24 5.3		W 17	1:14 15.2	7:44 4.2	13:45 15.7	20:17 3.6	W 17	6:00 5.9	12:22 14.0	18:48 5.7			
M 18		0:40 14.8	7:02 5.0	13:07 16.2	19:35 4.3	Th 18	2:14 16.8	8:45 2.3	14:42 17.2	21:12 1.8	Th 18	0:55 14.9	7:25 4.5	13:31 15.4	20:00 3.8		
Tu 19		1:38 16.0	8:06 3.6	14:06 16.4	20:34 2.5	F 19	3:05 18.4	9:38 0.5	15:32 18.8	22:00 0.2	F 19	1:55 16.6	8:28 2.4	14:28 17.1	20:55 1.7		
W 20		2:30 17.3	9:02 2.0	14:57 17.7	21:27 1.6	S 20	3:54 19.8	10:25 —1.0	16:20 19.9	22:45 —1.0	S 20	2:48 18.5	9:20 0.3	15:15 19.0	21:43 —0.1		
Th 21		3:20 18.5	9:52 0.6	15:45 18.8	22:13 0.5	S 21	4:38 20.8	11:08 —1.9	17:03 20.5	23:25 —1.6	P	S 21	3:35 20.1	10:05 —1.3	16:00 20.4	22:25 —1.5	
●		F 22	4:08 19.4	10:38 —0.5	16:33 19.4	23:00 —0.2	M 22	5:20 21.4	11:50 —2.1	17:43 20.5		E	M 22	4:20 21.2	10:48 —2.2	16:40 21.0	23:05 —2.2
P	S 23	4:52 20.1	11:25 —1.0	17:17 19.6	23:43 —0.4	E	Tu 23	0:07 —1.5	6:05 21.2	12:30 —1.6	18:27 20.0	Tu 23	5:00 21.9	11:25 —2.4	17:20 21.0	23:44 —2.1	
E D	S 24	5:36 20.3	12:08 —1.1	18:03 19.4		W 24	0:46 —0.9	6:50 20.3	13:12 —0.6	19:10 19.0	W 24	5:40 21.5	12:05 —1.8	18:00 20.5			
	M 25	0:26 —0.2	6:24 20.1	12:53 —0.6	18:50 18.8	Th 25	1:30 0.3	7:35 19.0	13:56 0.8	19:58 17.5	Th 25	0:24 —1.3	6:24 20.5	12:46 —0.5	18:42 19.3		
	Tu 26	1:10 0.5	7:12 19.2	13:37 0.3	19:40 17.9	F 26	2:15 1.8	8:28 17.3	14:42 2.5	20:50 16.0	F 26	1:05 0.0	7:06 18.9	13:28 1.1	19:26 17.7		
	W 27	1:55 1.4	8:04 18.1	14:26 1.3	20:32 16.8	S 27	3:05 3.5	9:27 15.5	15:38 4.3	21:58 14.6	S 27	1:50 1.6	7:56 17.0	14:12 2.8	20:16 16.0		
	Th 28	2:45 2.5	9:00 16.9	15:18 2.6	21:33 15.8	S 28	4:14 4.8	10:43 14.2	16:54 5.7	23:20 14.0	D	S 28	2:36 3.6	8:52 15.1	15:05 4.7	21:20 14.3	
	F 29	3:40 3.7	10:05 15.7	16:18 4.0	22:40 14.9						N	M 29	3:40 5.0	10:10 13.7	16:18 6.2	22:46 13.5	
	S 30	4:50 4.6	11:16 15.0	17:32 4.8	23:52 14.7						Tu 30	5:07 6.0	11:40 13.0	18:00 6.7			
	S 31	6:10 5.0	12:28 14.8	18:54 5.0							W 31	0:14 13.6	6:44 5.9	13:00 13.4	19:26 5.8		

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The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.
 ●, new moon; ☾, 1st quar.; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	1:22 14.3	7:56 4.9	13:58 14.3	20:22 4.4	A	S	1	1:34 14.9	8:03 4.2	13:58 15.1	20:26 3.7	O	Tu	1	2:05 16.1	8:33 3.0	14:25 16.7	20:57 2.7
	F	2	2:14 15.3	8:45 3.6	14:38 15.3	21:04 3.1	E	S	2	2:15 15.9	8:42 3.0	14:34 16.2	21:02 2.6		W	2	2:43 17.0	9:12 2.2	15:04 17.5	21:34 1.5
	S	3	2:54 16.3	9:22 2.4	15:15 16.4	21:39 2.0	M	3	2:50 16.8	9:17 2.0	15:07 17.2	21:36 1.7	Th		3	3:32 17.8	9:50 1.5	15:42 18.3	22:12 1.2	
	S	4	3:30 17.3	9:56 1.6	15:45 17.4	22:12 1.1	Tu	4	3:22 17.7	9:50 1.3	15:38 18.2	22:07 1.1	F		4	4:00 18.3	10:29 1.3	16:20 18.7	22:50 0.9	
	M	5	4:00 18.1	10:27 0.9	16:15 18.1	22:40 0.7	O	W	5	3:55 18.5	10:22 0.9	16:10 18.6	22:38 0.8		S	5	4:39 18.4	11:08 1.4	16:58 18.7	23:30 1.0
E	Tu	6	4:30 18.6	10:55 0.6	16:42 18.5	23:10 0.7	Th	6	4:27 18.7	10:53 0.9	16:42 18.8	23:10 0.9	S	S	6	5:18 18.1	11:47 1.7	17:38 18.3		
	W	7	4:55 18.7	11:20 0.9	17:08 18.5	23:36 1.0	F	7	4:58 18.6	11:25 1.3	17:13 18.5	23:45 1.2	M	7	0:11 1.3	6:03 17.5	12:29 2.4	18:23 17.5		
	Th	8	5:23 18.6	11:50 1.3	17:36 18.2		S	8	5:32 18.2	11:58 1.9	17:49 18.0		Tu	8	0:54 1.9	6:52 16.7	13:13 16.7	19:11 16.7		
	F	9	0:05 1.5	5:54 18.1	12:07 2.0	18:08 17.7	S	S	9	0:17 1.9	6:10 17.4	12:32 2.7	18:28 17.1	W	9	1:43 2.6	7:48 15.8	14:06 3.9	20:12 15.8	
	S	10	0:32 2.2	6:26 17.4	12:48 2.7	18:42 16.9	M	10	0:56 2.6	6:53 16.4	13:15 3.6	19:16 16.0	Th	10	2:38 3.3	8:54 15.1	15:04 4.5	21:29 15.1		
S	S	11	1:05 3.0	7:04 16.4	13:24 3.6	19:22 15.8	Tu	11	1:43 8.5	7:48 15.2	14:05 4.6	20:12 14.8	C	F	11	3:43 3.8	10:17 14.8	16:13 4.8	22:44 15.8	
	M	12	1:45 3.9	7:52 15.2	14:08 4.7	20:15 14.5	C	W	12	2:40 4.4	9:00 14.2	15:09 5.5	21:32 14.1	E	S	12	4:52 3.9	11:18 15.0	17:24 4.6	23:48 15.8
	Tu	13	2:40 4.9	9:00 13.9	15:10 5.8	21:38 13.5	Th	13	3:57 5.0	10:27 13.9	16:34 5.9	22:58 14.5	S	13	6:02 3.7	12:18 15.8	18:34 3.9			
	W	14	4:02 5.7	10:38 13.3	16:46 6.5	23:18 13.7	F	14	5:20 4.8	11:48 14.5	18:00 5.2		M	14	0:43 16.5	7:08 3.1	13:13 16.5	19:35 16.5		
	Th	15	5:42 5.5	12:10 14.0	18:28 5.7		S	15	0:12 15.5	6:35 3.8	12:50 15.7	19:08 3.7	Tu	15	1:37 17.2	8:05 2.2	14:02 17.4	20:30 17.4		
P	F	16	0:37 15.1	7:05 4.2	13:15 15.5	19:38 8.8	E	S	16	1:10 16.8	7:38 2.5	13:41 17.0	20:05 2.1	W	16	2:27 17.9	8:55 1.3	14:50 18.2	21:20 18.2	
	S	17	1:37 16.8	8:00 2.3	14:06 17.2	20:32 1.8	M	17	2:02 18.1	8:30 1.0	14:27 18.4	20:52 0.6	Th	17	3:15 18.4	9:42 0.8	15:36 18.7	22:07 0.5		
	S	18	2:27 18.5	8:56 0.4	14:54 18.8	21:18 0.0	Tu	18	2:48 19.2	9:17 0.0	15:11 19.3	21:38 -0.5	F	18	4:00 18.5	10:27 0.6	16:08 18.8	22:50 0.2		
	M	19	3:12 19.9	9:42 -0.9	15:35 20.2	22:00 -1.3	W	19	3:33 19.9	10:00 -0.6	15:52 20.0	22:22 -0.9	S	19	4:44 18.2	11:09 0.9	16:58 18.7	23:32 0.5		
	Tu	20	3:55 20.9	10:22 -1.7	16:16 20.8	22:43 -1.9	Th	20	4:16 20.0	10:42 -0.6	16:34 20.0	23:02 -0.9	S	20	5:25 17.6	11:30 1.5	17:40 18.1			
N	W	21	4:36 21.3	11:04 -1.8	16:56 20.9	23:22 -1.8	F	21	4:58 19.6	11:23 0.0	17:13 19.5	23:45 -0.2	M	21	0:14 1.2	6:06 16.8	12:30 2.3	18:24 17.2		
	Th	22	5:16 20.8	11:43 -1.1	17:32 20.3		S	22	5:38 18.6	12:03 1.0	17:55 18.6		Tu	22	0:56 2.2	6:49 15.9	13:10 3.3	19:08 16.2		
	F	23	0:08 -1.0	5:56 19.8	12:24 0.1	18:15 19.1	S	23	0:27 0.8	6:21 17.4	12:45 2.2	18:40 17.3	W	23	1:38 3.2	7:33 15.0	13:53 4.3	19:55 15.2		
	S	24	0:45 0.3	6:42 18.2	13:04 1.7	19:00 17.6	M	24	1:12 2.1	7:07 16.0	13:28 8.6	19:28 15.9	Th	24	2:20 4.2	8:23 14.2	14:35 5.1	20:46 14.3		
	S	25	1:27 1.9	7:28 16.5	13:48 3.4	19:48 15.9	Tu	25	1:58 3.5	8:00 14.6	14:16 4.9	20:25 14.6	F	25	3:05 4.9	9:17 13.7	15:23 5.7	21:42 13.9		
D	M	26	2:16 3.6	8:25 14.7	14:38 5.0	20:51 14.3	W	26	2:50 4.7	9:03 13.7	15:12 5.9	21:32 13.7	S	26	3:55 5.4	10:15 13.5	16:18 6.1	22:40 13.7		
	Tu	27	3:15 5.0	9:38 13.4	15:45 6.3	22:11 13.4	D	Th	27	3:52 5.5	10:17 13.1	16:22 6.5	22:45 13.6	S	27	4:50 5.6	11:13 13.7	17:22 6.1	23:38 14.0	
	W	28	4:32 6.0	11:08 12.9	17:16 6.8	23:38 13.5	A	F	28	4:59 5.9	11:27 13.2	17:36 6.4	23:50 13.8	M	28	5:50 5.5	12:08 14.2	18:25 5.7		
	Th	29	5:58 6.0	12:20 13.2	18:42 6.2		S	29	6:07 5.7	12:21 13.8	18:42 5.7		Tu	29	0:30 14.5	6:50 5.0	12:59 15.0	19:23 14.5		
	F	30	0:43 14.0	7:12 5.8	13:15 14.1	19:42 5.0	E	S	30	0:40 14.5	7:04 5.5	13:06 14.7	19:33 4.8	W	30	1:20 15.3	7:47 4.1	13:46 15.9	20:15 3.7	
						M	31	1:21 15.2	7:50 4.0	13:47 15.7	20:17 3.7									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2°20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
C	Th	1	2:08 16.2	8:38 3.1	14:33 16.9	21:03 2.6	P	○	S	1	8:25 17.9	9:55 1.3	15:47 18.7	22:20 0.3	E	P	W	1	4:38 20.3	11:03 -1.3	16:57 21.2	23:27 -1.9										
	F	2	2:54 17.1	9:25 2.2	15:20 17.8	21:50 1.5		M	2	4:12 18.8	10:40 0.4	16:32 19.6	23:08 -0.5	Th		2	5:20 20.6	11:45 -1.5	17:40 21.3	24:00 ...												
	S	3	3:40 18.0	10:10 1.5	16:08 18.5	22:34 0.8		Tu	3	4:57 19.3	11:23 -0.1	17:15 20.1	23:48 -0.9	F		3	6:08 -1.7	12:25 20.2	18:25 -1.1	24:30 20.6												
	S	4	4:25 18.4	10:55 1.1	16:45 19.0	23:18 0.4		W	4	5:40 19.4	12:06 -0.2	18:01 20.1	...	S		4	6:50 -0.9	13:06 19.4	19:09 -0.1	25:00 19.5												
	M	5	5:08 18.5	11:38 1.0	17:30 19.0	...		Th	5	6:31 -0.7	12:48 19.1	18:47 0.2	19:46	S		5	1:32 0.4	7:30 18.1	13:50 1.2	20:00 17.8												
P	Tu	6	0:03 0.3	5:55 18.3	12:22 1.3	18:15 18.7	E	○	F	6	1:15 -0.1	7:13 18.4	13:32 0.9	19:37 18.7	C	M	6	2:18 2.0	8:23 16.6	14:40 2.8	20:57 16.1											
	W	7	0:47 0.6	6:45 17.7	13:07 1.8	19:05 18.1		S	7	2:00 0.9	8:03 17.4	14:18 1.9	20:28 17.5	Tu		7	3:12 3.7	9:25 15.0	15:42 4.3	22:10 14.6												
	Th	8	1:34 1.2	7:36 17.0	13:53 2.4	19:59 17.3		○	S	8	2:48 2.0	8:58 16.3	15:10 3.1	21:30 16.2		W	8	4:21 5.2	10:45 14.2	17:02 5.3	23:36 14.0											
	F	9	2:24 2.0	8:33 16.3	14:45 3.5	20:58 16.5		M	9	3:45 3.4	10:02 15.3	16:12 4.2	22:38 15.2	Th		9	5:51 5.8	12:08 14.2	18:37 5.3	24:00 ...												
	S	10	3:18 2.7	9:35 15.7	15:42 3.8	22:03 16.0		Tu	10	4:52 4.5	11:15 14.8	17:28 4.8	23:53 14.8	F		10	6:58 14.1	13:20 5.3	19:54 14.8	24:30 4.4												
N	S	11	4:18 3.5	10:42 15.3	16:48 3.8	23:10 15.7	N	○	W	11	6:12 5.0	12:26 14.9	18:32 4.7	...	E	S	11	1:56 14.8	8:22 4.0	14:15 15.7	20:50 3.1											
	M	12	5:27 3.9	11:47 15.3	17:59 4.3	...		Th	12	1:08 14.9	7:30 4.6	13:30 15.4	20:04 3.9	S		12	2:45 15.7	9:08 2.7	15:02 16.8	21:32 2.0												
	Tu	13	0:16 15.8	6:37 4.0	12:47 15.7	19:10 3.8		F	13	2:05 15.3	8:33 3.6	14:27 16.2	21:02 2.8	M		13	3:25 16.6	9:47 1.6	15:40 17.6	22:08 1.2												
	W	14	1:16 16.0	7:45 3.5	13:43 16.3	20:13 3.0		S	14	2:57 16.1	9:23 2.5	15:15 17.0	21:48 1.8	● Tu		14	4:00 17.4	10:23 1.0	16:15 18.2	22:40 0.7												
	Th	15	2:12 16.4	8:42 2.7	14:35 17.0	21:10 2.9		○	S	15	3:42 16.7	10:05 1.7	15:58 17.7	22:28 1.2		W	15	4:32 17.9	10:50 0.7	16:46 18.5	23:12 0.7											
A	F	16	3:03 17.0	9:32 2.0	15:25 17.6	21:57 1.3	A	●	M	16	4:22 17.2	10:45 1.2	16:37 18.2	23:05 0.9	E	Th	16	5:00 18.0	11:24 0.8	17:13 18.4	23:40 1.1											
	S	17	3:50 17.8	10:16 1.4	16:10 18.0	22:41 0.9		Tu	17	4:57 17.5	11:20 1.0	17:10 18.3	23:38 1.0	F		17	5:25 17.8	11:52 1.4	17:40 18.0	24:00 ...												
	S	18	4:34 17.4	10:58 1.3	16:50 18.2	23:22 0.9		W	18	5:28 17.4	11:52 1.3	17:42 18.0	...	S		18	6:05 1.7	12:17 17.5	18:05 2.1	24:30 17.5												
	M	19	5:14 17.2	11:38 1.5	17:27 18.0	...		Th	19	6:10 1.4	12:30 1.1	18:12 1.9	...	S		19	6:30 2.4	12:40 17.0	18:33 2.8	25:00 16.9												
	Tu	20	0:00 1.3	5:50 16.8	12:13 2.0	18:05 17.5		F	20	0:40 2.1	6:25 16.7	12:50 2.7	18:42 16.9	M		20	0:54 3.1	6:45 16.4	13:08 3.5	19:04 16.1												
D	W	21	0:35 1.9	6:25 16.3	12:50 2.7	18:43 16.9	D	○	S	21	1:05 2.8	6:54 16.2	13:15 3.4	19:10 16.2	D	Tu	21	1:25 3.8	7:22 15.5	13:42 4.3	19:45 15.0											
	Th	22	1:11 2.6	7:02 15.8	13:23 3.5	19:20 16.1		S	22	1:32 3.5	7:26 15.6	13:42 4.0	19:45 15.4	W		22	2:03 4.7	8:08 14.4	14:28 5.1	20:43 13.9												
	F	23	1:45 3.5	7:37 15.2	13:55 4.3	19:57 15.3		M	23	2:03 4.2	8:04 14.9	14:18 4.7	20:25 14.6	Th		23	2:57 5.8	9:18 13.3	15:40 5.9	22:11 13.0												
	S	24	2:17 4.2	8:17 14.6	14:27 4.9	20:38 14.5		Th	24	2:42 4.9	8:58 14.1	15:05 5.4	21:23 13.7	F		24	4:23 6.6	10:57 13.1	17:18 6.2	23:50 13.4												
	S	25	2:58 4.8	9:02 14.1	15:10 5.4	21:25 14.0		W	25	3:27 5.6	10:02 13.4	16:14 6.0	22:42 13.3	S		25	6:10 6.3	12:27 14.3	18:52 5.1	24:00 ...												
S	M	26	3:39 5.3	9:58 13.7	16:03 5.8	22:25 13.7	S	○	Th	26	4:56 6.2	11:28 13.5	17:45 6.1	...	P	S	26	1:04 14.8	7:30 4.6	13:32 16.0	20:00 3.1											
	Tu	27	4:37 5.7	11:08 13.7	17:10 6.0	23:32 13.8		F	27	0:08 13.7	6:33 5.9	12:48 14.5	19:14 5.0	M		27	2:02 16.6	8:28 2.5	14:23 17.9	20:53 1.0												
	W	28	5:49 5.8	12:12 14.1	18:30 5.7	...		S	28	1:20 14.9	7:49 4.5	13:50 16.0	20:20 3.2	Tu		28	2:48 18.4	9:16 0.5	15:10 19.6	21:38 -0.7												
	Th	29	0:40 14.5	7:04 5.2	13:13 15.1	19:40 4.6		S	29	2:18 16.5	8:48 2.7	14:42 17.7	21:13 1.3	W		29	3:34 20.0	9:59 -1.0	15:54 20.9	22:22 -1.9												
	F	30	1:40 15.4	8:10 4.0	14:08 16.3	20:40 3.1		M	30	3:08 18.2	9:38 0.9	15:30 19.2	22:00 -0.3	Th		30	4:15 21.0	10:40 -1.9	16:35 21.8	23:02 -2.3												
S	S	31	2:34 16.6	9:05 2.6	14:58 17.6	21:32 1.6	○	Tu	31	3:55 19.5	10:22 -0.5	16:16 20.4	22:45 -1.4																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																			
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.														
	W.	Mo.										W.	Mo.										W.	Mo.															
A E O	Th	1	6:01 2.9	12:38 9.4	18:18 8.1					E O S	S	1	5:52 2.6	12:31 9.5	18:06 2.8					O S P N	Tu	1	0:21 9.6	6:01 1.9	12:40 10.0	18:20 1.6					P E D A								
	F	2	0:40 10.0	6:35 2.8	13:12 10.0	18:46 2.5						S	2	0:36 10.0	6:19 2.1	13:00 10.0	18:31 2.1						W	2	0:56 10.0	6:35 1.3	13:15 10.5	18:56 1.0											
	S	3	1:15 10.6	7:00 1.8	13:40 10.5	19:10 2.0						M	3	1:08 10.4	6:44 1.5	13:25 10.4	18:56 1.4						Th	3	1:31 10.4	7:09 0.7	13:45 10.8	19:31 0.4											
	S	4	1:46 11.0	7:25 1.8	14:05 10.7	19:32 1.3						Tu	4	1:35 10.6	7:10 1.0	13:50 10.7	19:24 0.8						O	F	4	2:07 10.6	7:45 0.5	14:21 11.1	20:10 0.1										
	M	5	2:11 11.2	7:47 0.9	14:26 10.8	19:55 0.8						W	5	2:00 10.7	7:36 0.6	14:13 10.9	19:54 0.8							S	5	2:45 10.7	8:25 0.4	15:00 11.2	20:51 0.0										
	Tu	6	2:35 11.1	8:10 0.5	14:46 10.9	20:21 0.4						Th	6	2:28 10.8	8:06 0.8	14:40 11.0	20:27 0.1						S	6	3:31 10.6	9:08 0.6	15:41 11.0	21:37 0.2											
	W	7	2:58 11.0	8:35 0.8	15:08 10.9	20:49 0.2						F	7	3:00 10.8	8:40 0.8	15:11 11.0	21:04 0.1						M	7	4:11 10.4	9:48 0.9	16:27 10.8	22:26 0.6											
	Th	8	3:20 10.9	9:04 0.2	15:32 10.8	21:21 0.2						S	8	3:34 10.6	9:16 0.5	15:53 10.8	21:45 0.4						Tu	8	5:00 10.1	10:37 1.5	17:16 10.4	23:21 1.1											
	F	9	3:50 10.7	9:37 0.5	16:00 10.6	22:00 0.5						S	9	4:18 10.3	9:56 1.0	16:27 10.4	22:31 0.9						W	9	5:54 9.7	11:35 2.2	18:12 10.0	24:00 0.0											
	S	10	4:23 10.4	10:14 1.0	16:35 10.2	22:41 1.1						M	10	4:58 9.8	10:42 1.8	17:13 9.9	23:25 1.6						Th	10	0:26 1.7	6:55 9.4	12:46 2.7	19:17 9.8											
	S	11	5:01 9.9	10:55 1.8	17:16 9.8	23:33 1.8						Tu	11	5:51 9.3	11:40 2.6	18:11 9.4							C	F	11	1:39 2.1	8:08 9.2	14:08 2.9	20:28 9.6										
S C P E D A	M	12	5:50 9.2	11:50 2.7	18:10 9.2						C	W	12	0:33 2.3	7:00 8.7	12:58 8.3	19:26 9.0						E	S	12	2:50 2.1	9:17 9.3	15:25 2.6	21:42 9.8										
	Tu	13	0:40 2.7	6:58 8.6	13:05 8.5	19:27 8.7						Th	13	1:58 2.7	8:26 8.6	14:35 8.4	20:52 9.2						S	13	4:00 1.8	10:27 9.7	16:28 10.2	22:51 10.2											
	W	14	2:08 8.1	8:35 8.2	14:50 8.8	21:10 8.7						F	14	3:21 2.4	9:53 9.0	15:54 2.8	22:14 9.8						M	14	4:58 1.4	11:28 10.3	17:22 10.3	23:54 10.7											
	Th	15	3:48 2.8	10:20 8.7	16:20 8.0	22:40 9.6						S	15	4:30 1.7	11:01 9.9	16:54 1.8	23:21 10.7						Tu	15	5:47 1.0	12:20 11.0	18:10 0.8												
	F	16	4:56 1.7	11:31 9.8	17:18 1.8	23:47 10.8						S	16	5:23 0.8	11:56 10.8	17:45 0.9							W	16	0:47 11.1	6:32 0.7	13:09 11.5	18:56 0.4											
	S	17	5:48 0.6	12:24 11.0	18:06 0.7							M	17	0:13 11.5	6:10 0.1	12:43 11.6	18:30 0.1						Th	17	1:38 11.4	7:14 0.6	13:54 11.8	19:40 0.2											
	S	18	0:40 12.0	6:34 -0.4	13:08 12.0	18:51 -0.3						Tu	18	1:02 12.1	6:52 -0.3	13:26 12.2	19:12 -0.5						F	18	2:23 11.4	7:55 0.6	14:36 11.8	20:22 0.3											
	M	19	1:25 12.8	7:18 -1.0	13:50 12.7	19:32 -1.1						W	19	1:50 12.3	7:32 -0.5	14:08 12.4	19:53 -0.6						S	19	3:06 11.1	8:34 0.9	15:18 11.6	21:04 0.6											
	Tu	20	2:08 13.2	7:56 -1.3	14:30 13.0	20:13 -1.3						Th	20	2:34 12.3	8:11 -0.8	14:50 12.3	20:36 -0.6						S	20	3:50 10.7	9:12 1.8	16:00 11.2	21:45 1.0											
	W	21	2:50 13.1	8:35 -1.1	15:08 12.8	20:54 -1.1						F	21	3:17 11.8	8:50 0.2	15:31 11.9	21:18 0.0						M	21	4:32 10.1	9:51 1.8	16:41 10.7	22:26 1.6											
	Th	22	3:33 12.6	9:14 -0.6	15:50 12.3	21:36 -0.5						N	S	22	4:00 11.1	9:30 0.8	16:15 11.3	22:00 0.7						Tu	22	5:12 9.5	10:30 2.4	17:21 10.0	23:10 2.2										
N D A E	F	23	4:15 11.8	9:54 0.8	16:30 11.5	22:20 0.3						S	23	4:45 10.3	10:10 1.7	16:56 10.5	22:46 1.6						W	23	5:55 9.0	11:14 3.0	18:04 9.3	23:57 2.7											
	S	24	5:00 10.8	10:36 1.4	17:14 10.5	23:05 1.4						M	24	5:35 9.4	10:56 2.6	17:45 9.6	23:40 2.5						Th	24	6:36 8.5	12:04 3.5	18:47 8.8												
	S	25	5:49 9.7	11:21 2.6	18:04 9.5							Tu	25	6:26 8.7	11:49 3.5	18:37 8.9							F	25	0:51 8.2	7:21 8.1	13:06 8.9	19:36 8.4											
	M	26	0:04 2.6	6:50 8.6	12:21 8.8	19:06 8.6						W	26	0:45 3.3	7:28 8.0	13:01 4.2	19:41 8.4						S	26	1:48 3.5	8:13 8.0	14:15 4.0	20:30 8.1											
	Tu	27	1:25 3.6	8:10 7.8	13:58 4.5	20:31 8.2						D	Th	27	2:05 3.7	8:40 7.8	14:33 4.4	20:53 8.2						S	27	2:50 3.6	9:14 8.0	15:21 8.9	21:31 8.1										
	W	28	3:06 4.0	9:54 7.7	15:51 4.3	22:04 8.3						A	F	28	3:16 3.7	9:54 7.9	15:51 4.1	22:04 8.4						M	28	3:50 3.4	10:13 8.4	16:14 8.4	22:35 8.5										
	Th	29	4:25 3.8	11:10 8.2	16:57 8.9	23:10 8.8						S	29	4:13 3.4	10:51 8.3	16:39 8.6	23:00 8.8						Tu	29	4:37 8.0	11:08 8.9	17:01 8.7	23:30 9.0											
	F	30	5:08 3.1	11:58 8.9	17:36 8.3	23:59 9.4						E	S	30	4:56 3.0	11:33 8.8	17:14 8.1	23:43 9.2						W	30	5:21 2.3	11:56 9.6	17:48 1.9											
												M	31	5:30 2.5	12:08 9.4	17:46 2.4																							

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
u	Th	1	0:22 9.6	6:02 1.7	12:45 10.3	18:30 1.1	P	○	S	1	1:43 10.9	7:16 0.5	13:58 11.8	19:47 -0.4	E	W	1	2:50 12.5	8:30 -1.1	15:06 13.3	20:58 -1.4											
	F	2	1:11 10.2	6:45 1.1	13:29 11.0	19:15 0.5		M	2	2:27 11.5	8:00 0.0	14:41 12.4	20:32 -0.7	Th		2	3:30 12.6	9:11 -1.1	15:51 13.2	21:40 -1.1												
	S	3	1:55 10.6	7:28 0.6	14:10 11.4	19:59 0.0		Tu	3	3:10 11.8	8:45 -0.3	15:24 12.6	21:17 -0.9	F		3	4:10 12.3	9:55 -0.7	16:30 12.6	22:24 -0.6												
	S	4	2:48 10.9	8:11 0.3	14:52 11.7	20:44 -0.2		P	W	4	3:51 11.8	9:31 -0.3	16:08 12.5	22:02 -0.6		S	4	4:51 11:40	10:40 0.0	17:15 11.6	23:10 0.6											
	M	5	3:21 11.0	8:55 0.3	15:36 11.8	21:30 -0.2		Th	5	4:34 11.6	10:16 0.0	16:51 12.1	22:50 -0.1	S		5	5:36 10.8	11:30 1.0	18:06 10.6													
P	Tu	6	4:05 11.0	9:43 0.5	16:26 11.7	22:18 0.1	E	F	6	5:19 11.2	11:05 0.6	17:39 11.4	23:41 0.7	○	M	6	6:28 1.8	12:31 9.9	19:05 2.1	19:05 9.5												
	W	7	4:51 10.8	10:34 0.9	17:09 11.3	23:11 0.6	S	7	6:06 10.6	11:59 1.4	18:30 10.6		Tu	7	7:09 3.0	12:48 9.0	19:51 3.0	20:29 8.6														
	Th	8	5:41 10.5	11:27 1.4	18:00 10.8		○	S	8	6:38 1.6	12:59 9.9	19:30 2.2	19:30 9.7	N	W	8	7:42 3.6	13:08 8.5	20:29 3.4	21:16 8.4												
	F	9	6:09 1.1	12:01 10.1	18:56 2.0	10.8	M	9	7:44 2.5	13:56 9.3	20:19 2.8	20:19 9.1	Th	9	8:48 3.6	14:01 8.9	21:16 3.1	22:16 9.0														
	○	S	10	7:12 1.7	13:02 9.6	19:59 2.4	9.8	Tu	10	8:04 3.0	14:02 8.9	20:21 3.0	20:21 8.9	F	10	9:25 3.2	15:02 9.7	21:16 2.5														
C	S	11	8:19 2.1	14:01 9.4	20:54 2.6	11:14 9.5	W	11	9:24 3.1	15:04 9.2	21:19 2.7	21:19 9.3	S	11	10:26 9.8	16:12 2.7	22:01 10.5	22:01 2.0														
	M	12	9:30 2.3	15:07 9.3	22:04 2.5	12:23 9.5	N	Th	12	10:26 2.8	16:02 9.9	22:19 2.2		S	12	11:17 10.4	17:02 2.2	23:01 11.1	23:01 1.5													
	Tu	13	10:36 2.2	16:07 9.7	23:06 2.1	13:00 10.0	F	13	11:24 9.9	17:02 2.5	23:19 10.7	23:19 1.8	M	13	12:11 10.8	18:02 1.8	24:01 11.5	24:01 1.2														
	W	14	11:36 2.0	17:07 10.4	24:06 1.6		S	14	12:30 10.5	18:02 2.1	24:19 11.2	24:19 1.4	●	Tu	14	13:11 11.1	19:02 1.3	25:01 11.6	25:01 0.9													
	Th	15	12:36 10.4	18:07 1.8	25:06 11.0	18:48 1.3	●	S	15	13:30 10.8	19:02 1.7	25:19 11.6	25:19 1.1	W	15	14:11 11.0	20:02 1.0	26:01 11.4	26:01 0.8													
N	F	16	1:34 10.8	19:04 1.5	26:06 11.4	19:32 1.0	M	16	14:30 11.0	20:02 1.4	26:19 11.6	26:19 1.0	E	Th	16	15:11 10.8	21:02 0.9	27:01 11.1	27:01 0.7													
	●	S	17	2:18 11.0	19:45 1.4	27:06 11.6	20:14 0.9	Tu	17	15:15 10.8	21:02 1.2	27:19 11.4	27:19 1.0	F	17	16:11 10.5	22:02 0.7	28:01 10.7	28:01 0.7													
	S	18	2:58 10.9	20:21 1.3	27:56 11.6	20:52 1.0	W	18	16:15 10.5	22:02 1.2	28:19 11.1	28:19 1.1	S	18	17:11 10.3	23:02 0.8	29:01 10.3	29:01 1.0														
	M	19	3:36 10.6	21:01 1.4	28:46 11.3	21:27 1.1	A	Th	19	17:15 10.2	23:02 1.3	29:19 10.6	29:19 1.2	S	19	18:11 10.1	24:02 1.1	30:01 10.0	30:01 1.4													
	Tu	20	4:10 10.3	21:40 1.6	29:26 10.8	22:00 1.4	F	20	18:15 9.9	24:02 1.5	30:19 10.1	30:19 1.5	M	20	19:11 9.9	25:02 1.6	31:01 9.6	31:01 2.0														
A	W	21	4:42 9.8	22:16 1.9	30:06 10.3	22:36 1.7	S	21	19:15 9.7	25:02 1.8	31:19 9.7	31:19 1.9	Tu	21	20:11 9.5	26:02 2.3	32:01 9.1	32:01 2.8														
	Th	22	5:11 9.4	22:40 2.3	30:46 9.7	23:11 2.1	●	S	22	20:15 9.4	26:02 2.2	32:19 9.3	32:19 2.5	D	W	22	21:11 9.0	27:02 3.0	33:01 8.5													
	F	23	5:40 9.1	23:10 2.7	31:16 9.2	23:51 2.6	M	23	21:15 9.2	27:02 2.8	33:19 8.9	33:19	S	Th	23	22:11 3.7	28:02 8.4	34:01 3.5	34:01 8.0													
	S	24	6:11 8.8	23:40 3.1	31:46 8.8		D	Tu	24	22:15 3.1	28:02 8.8	34:19 8.3	34:19 8.5	F	24	23:11 4.0	29:02 8.3	35:01 3.3	35:01 8.5													
	●	S	25	6:37 3.0	24:10 8.5	32:16 3.5	19:10 8.5	W	25	23:15 3.7	29:02 8.4	35:19 8.6	35:19 8.1	S	25	24:11 3.8	30:02 9.0	36:01 2.2	36:01 9.3													
D	M	26	7:04 3.4	24:40 8.3	32:42 3.7	20:10 8.2	Th	26	24:15 3.7	30:02 8.3	36:19 3.2	36:19 8.3	S	26	25:11 2.2	31:02 10.3	37:01 0.9															
	Tu	27	7:30 3.6	25:10 8.3	33:12 3.6	21:28 8.2	S	F	27	25:15 4.2	31:02 9.0	37:19 2.3	37:19 9.2	M	27	26:11 10.6	32:02 1.0	38:01 11.7	38:01 -0.2													
	W	28	7:56 3.3	25:40 8.5	33:42 3.0	22:58 8.5	S	S	28	26:15 2.2	32:02 10.2	38:19 1.1		Tu	28	27:11 11.7	33:02 -0.1	39:01 12.7	39:01 -1.1													
	Th	29	8:22 2.8	26:10 9.2	34:12 2.1		●	S	29	27:15 10.3	33:02 1.2	39:19 11.4	39:19 0.0	○	W	29	28:11 12.6	34:02 -1.0	40:01 13.3	40:01 -1.5												
	S	F	30	8:50 9.3	26:40 2.0	34:42 10.2	18:18 1.2	M	30	28:15 11.3	34:02 0.2	40:19 12.4	40:19 -0.8	Th	30	29:11 13.0	35:02 -1.5	41:01 13.5	41:01 -1.6													
S	S	31	9:16 10.1	27:10 1.2	35:12 11.1	19:01 0.3	○	Tu	31	29:15 12.1	35:02 -0.6	41:19 13.1	41:19 -1.3																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it. In order to refer the above heights to the plane used upon the Portuguese Charts of Lisbon Harbor, add 1.4 feet to each. A foot is about three-tenths of a meter.

The time used is Portuguese Standard, for the meridian 9° 11' W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
C N	F	1	2:07 13.1	8:50 —1.5	15:28 13.3	21:14 —1.2	C N	M	1	4:06 12.1	9:54 —0.2	16:36 11.2	22:10 0.9	C N	W	1	4:34 11.2	10:24 1.0	17:10 10.0	22:34 2.1												
	S	2	3:48 12.8	9:32 —1.1	16:12 12.6	21:55 —0.5		Tu	2	4:50 11.1	10:42 0.9	17:25 10.2	22:58 2.1		Th	2	5:22 10.3	11:17 2.0	18:04 9.1	23:25 3.5												
	S	3	4:28 12.1	10:15 —0.3	16:55 11.6	22:38 0.7		W	3	5:40 10.0	11:40 2.2	18:25 9.0	23:54 3.4		F	3	6:16 9.4	12:21 3.0	19:05 8.4	24:00 2.9												
	M	4	5:11 11.1	11:04 0.9	17:44 10.5	23:26 1.9		Th	4	6:41 9.0	13:00 3.3	19:43 8.2	24:40 2.9		S	4	7:08 4.0	13:41 8.7	20:00 8.6	24:40 8.0												
	Tu	5	6:02 10.0	12:03 2.1	18:44 9.7	24:14 2.9		F	5	7:30 4.8	14:02 8.4	20:41 3.7	25:24 8.0		S	5	8:10 4.4	14:35 8.3	20:54 8.7	25:24 8.0												
	W	6	6:30 8.3	7:06 8.9	13:26 3.3	20:06 8.3		S	6	8:26 4.3	9:35 8.5	16:08 3.5	22:50 8.3		M	6	8:40 4.2	9:50 8.4	16:06 3.6	22:50 8.0												
	Th	7	2:07 4.2	8:37 8.4	15:13 3.6	22:00 8.1		S	7	4:45 3.7	10:51 9.0	17:06 3.1	23:42 9.0		Tu	7	4:39 3.8	10:53 8.8	16:55 8.1	23:42 8.0												
	F	8	4:10 4.0	10:20 8.7	16:41 3.4	23:24 8.7		M	8	5:30 3.2	11:45 9.6	17:47 2.5	24:24 2.9		W	8	5:15 3.3	11:40 9.1	17:28 2.8	24:24 2.9												
	S	9	5:15 3.5	11:27 9.4	17:43 2.7	24:14 2.9		Tu	9	6:19 3.2	12:43 9.7	18:26 2.7	25:00 2.1		Th	9	6:05 3.4	12:45 9.4	18:19 2.7	25:00 2.9												
	S	10	0:16 9.5	6:01 2.9	12:18 10.1	18:23 2.2		W	10	0:50 10.2	6:28 2.2	13:00 10.6	18:37 1.6		F	10	0:38 9.9	6:15 2.0	12:54 10.0	18:37 1.7												
F A	M	11	0:54 10.1	6:36 2.4	12:58 10.8	18:51 1.7	Th	11	1:16 10.6	6:50 1.6	13:28 10.8	19:00 1.2	S	11	1:08 10.4	6:45 1.4	13:37 10.3	18:51 1.2														
	Tu	12	1:25 10.7	7:00 1.9	13:31 11.2	19:15 1.4	F	12	1:40 10.9	7:14 1.0	13:55 10.9	19:23 0.8	S	12	1:39 10.8	7:18 0.8	13:58 10.5	19:23 0.8														
	W	13	1:51 11.0	7:23 1.4	14:00 11.3	19:35 1.0	S	13	2:05 11.0	7:40 0.6	14:19 10.7	19:50 0.6	M	13	2:10 11.1	7:54 0.3	14:30 10.6	19:50 0.6														
	Th	14	2:15 11.1	7:45 1.0	14:24 11.2	19:56 0.7	S	14	2:29 11.0	8:10 0.3	14:45 10.6	20:20 0.4	Tu	14	2:44 11.2	8:31 0.1	15:06 10.6	20:20 0.6														
	F	15	2:36 11.0	8:07 0.7	14:48 11.0	20:19 0.6	M	15	2:55 10.9	8:43 0.2	15:14 10.5	20:52 0.6	W	15	3:20 11.1	9:11 0.1	15:45 10.4	21:20 0.8														
	S	16	2:56 10.9	8:33 0.4	15:10 10.8	20:45 0.5	Tu	16	3:27 10.8	9:20 0.3	15:50 10.2	21:29 0.9	Th	16	4:00 10.9	9:56 0.4	16:29 10.2	22:05 1.2														
	S	17	3:18 10.7	9:02 0.4	15:34 10.5	21:14 0.6	W	17	4:08 10.4	10:01 0.7	16:30 9.8	22:10 1.5	F	17	4:45 10.6	10:46 0.9	17:18 9.8	22:56 1.9														
	M	18	3:44 10.5	9:37 0.6	16:03 10.2	21:50 1.1	Th	18	4:43 10.0	10:51 1.4	17:18 9.8	23:00 2.3	S	18	5:36 10.2	11:45 1.5	18:13 9.4	23:57 2.5														
	Tu	19	4:14 10.2	10:16 1.1	16:38 9.7	22:25 1.7	F	19	5:35 9.4	11:52 2.2	18:19 8.8	23:40 2.9	S	19	6:34 9.7	12:53 2.1	19:18 9.1	24:40 3.1														
	S	20	4:51 9.7	11:01 1.7	17:22 9.2	23:13 2.5	S	20	6:06 3.2	12:43 9.0	19:12 2.8	24:10 8.4	M	20	1:15 2.9	7:43 9.5	14:08 2.4	20:33 9.9														
D P	Th	21	5:40 9.2	12:02 2.6	18:22 8.5	24:00 2.9	S	21	1:42 3.6	8:09 2.8	14:40 2.7	21:12 8.7	Tu	21	2:40 2.9	9:01 9.5	15:19 2.2	21:49 9.4														
	F	22	0:20 8.5	6:50 8.6	13:25 8.2	19:51 8.1	M	22	3:17 3.2	9:37 9.4	15:54 2.1	22:30 9.5	W	22	3:55 2.5	10:17 9.8	16:30 1.8	22:56 10.0														
	S	23	2:04 3.9	8:29 8.5	15:02 3.1	21:43 8.4	Tu	23	4:25 2.3	10:50 10.3	16:56 1.2	23:28 10.5	Th	23	4:55 1.8	11:24 10.5	17:22 1.3	23:53 10.8														
	S	24	3:44 3.4	10:06 9.2	16:24 2.2	23:02 9.4	W	24	5:18 1.2	11:57 11.3	17:45 0.4	24:10 2.9	F	24	5:47 1.0	12:22 11.1	18:10 0.8	24:40 3.1														
	M	25	4:50 2.3	11:18 10.4	17:21 1.0	23:56 10.7	Th	25	0:15 11.5	6:05 0.3	12:39 12.0	18:28 —0.3	S	25	0:45 11.6	6:35 0.4	13:15 11.6	18:55 0.4														
	Tu	26	5:41 1.0	12:12 11.7	18:08 —0.1	24:40 —0.9	F	26	1:01 12.3	6:49 —0.5	13:25 12.5	19:10 —0.6	S	26	1:31 12.1	7:20 0.0	14:00 11.8	19:36 0.3														
	W	27	0:42 11.8	6:25 —0.1	13:00 12.6	18:51 —0.9	S	27	1:44 12.7	7:31 —0.9	14:10 12.6	19:50 —0.6	M	27	2:15 12.4	8:05 —0.1	14:45 11.7	20:16 0.4														
	Th	28	1:24 12.7	7:09 —1.0	13:43 13.2	19:30 —1.3	S	28	2:26 12.8	8:14 —0.8	14:54 12.3	20:30 —0.3	Tu	28	2:58 12.3	8:46 0.1	15:29 11.4	20:56 0.5														
	F	29	2:04 13.1	7:50 —1.4	14:25 13.3	20:10 —1.3	M	29	3:08 12.5	8:56 —0.5	15:37 11.7	21:10 0.3	W	29	3:40 12.0	9:27 0.5	16:10 10.8	21:35 1.2														
	S	30	2:45 13.2	8:30 —1.4	15:07 13.0	20:50 —0.9	Tu	30	3:50 11.9	9:39 0.2	16:22 10.9	21:50 1.2	Th	30	4:20 11.4	10:08 1.0	16:54 10.2	22:15 1.9														
S	31	3:24 12.7	9:11 —1.0	15:50 12.8	21:30 —0.2							F	31	5:08 10.6	10:51 1.7	17:35 9.5	22:55 2.6															

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it. In order to refer the above heights to the plane used upon the Portuguese Charts of Lisbon Harbor, add 1.4 feet to each. A foot is about three-tenths of a meter.

The time used is Portuguese Standard, for the meridian 9° 11' W. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
N O	F	1	4:55 11:42 17:36	...	C A	M	1	0:48 6:58 13:21 19:21	...	E A	M	1	5:05 12:17 17:48	...
	S	2	0:13 6:06 12:39 18:43	...		Tu	2	1:88 7:58 14:10 20:19	...		Tu	2	0:35 6:31 13:20 19:03	...
	S	3	1:01 7:12 13:26 19:42	...		W	3	2:21 8:49 14:56 21:04	...		W	3	1:35 7:42 14:06 20:02	...
	M	4	1:46 8:11 14:16 20:32	...		Th	4	3:05 9:31 15:31 21:45	...		Th	4	2:15 8:32 14:46 20:48	...
	Tu	5	2:30 9:01 15:00 21:18	...		F	5	3:44 10:11 16:03 22:25	...		F	5	2:55 9:18 15:19 21:26	...
	W	6	3:11 9:45 15:36 22:01	...		S	6	4:17 10:48 16:30 23:00	...		S	6	3:30 9:50 15:41 22:03	...
	Th	7	3:51 10:27 16:12 22:40	...		S	7	4:44 11:25 16:47 23:39	...		S	7	3:57 10:24 16:06 22:39	...
	F	8	4:21 11:07 16:40 23:21	...		M	8	5:01 12:00 17:06 24:00	...		M	8	4:18 10:58 16:21 23:14	...
	S	9	4:51 11:46 17:04 24:00	...		Tu	9	5:12 12:35 17:30 24:30	...		Tu	9	4:35 11:31 16:40 23:47	...
	S	10	0:00 5:19 12:25 17:26	...		W	10	0:48 5:46 13:09 17:59	...		W	10	4:55 12:05 17:05 24:00	...
A E C	M	11	0:38 5:42 13:04 17:54	...	C S	Th	11	1:24 6:13 13:48 18:40	...	C S	Th	11	0:20 5:18 12:39 17:32	...
	Tu	12	1:19 6:10 13:41 18:26	...		F	12	2:03 6:52 14:27 19:18	...		F	12	0:56 5:46 13:15 18:04	...
	W	13	1:56 6:46 14:24 19:10	...		S	13	2:46 7:40 15:16 20:16	...		S	13	1:33 6:21 13:55 18:43	...
	Th	14	2:42 7:31 15:11 20:11	...		S	14	3:41 8:49 16:19 22:00	...		S	14	2:14 7:05 14:42 19:30	...
	F	15	3:33 8:38 16:05 22:10	...		M	15	4:52 10:53 17:20 23:45	...		M	15	3:08 8:07 15:42 20:46	...
	S	16	4:35 10:30 17:05 23:26	...		Tu	16	6:07 12:18 18:48 25:00	...		Tu	16	4:20 10:15 17:00 23:13	...
	S	17	5:41 11:41 18:07 24:30	...		W	17	7:23 13:20 19:55 26:15	...		W	17	5:31 12:05 18:20 24:20	...
	M	18	0:23 6:48 12:41 19:17	...		Th	18	1:45 8:25 14:15 20:49	...		Th	18	0:31 6:58 13:09 19:33	...
	Tu	19	1:13 7:50 13:38 20:16	...		F	19	2:32 9:15 15:08 21:35	...		F	19	1:28 8:01 14:01 20:27	...
	W	20	2:01 8:45 14:23 21:07	...		S	20	3:13 10:00 15:40 22:19	...		S	20	2:17 8:53 14:46 21:14	...
S P E D	Th	21	2:42 9:33 15:05 21:54	...	P M	S	21	3:56 10:44 16:20 23:00	...	E M	S	21	3:00 9:39 15:23 21:58	...
	F	22	3:21 10:16 15:46 22:36	...		M	22	4:36 11:26 16:57 23:42	...		M	22	3:40 10:21 16:00 22:39	...
	S	23	4:04 11:01 16:29 23:19	...		Tu	23	5:16 12:07 17:33 24:20	...		Tu	23	4:19 11:03 16:37 23:20	...
	S	24	4:44 11:46 17:09 24:00	...		W	24	6:07 12:49 18:14 25:00	...		W	24	4:57 11:45 17:11 24:00	...
	M	25	0:01 5:25 12:29 17:51	...		Th	25	1:06 6:40 13:34 18:54	...		Th	25	0:01 5:36 12:25 17:46	...
	Tu	26	0:45 6:10 13:14 18:39	...		F	26	1:51 7:30 14:20 19:50	...		F	26	0:45 6:16 13:09 18:24	...
	W	27	1:29 7:00 14:00 19:31	...		S	27	2:43 8:09 15:15 21:45	...		S	27	1:30 6:57 13:55 19:06	...
	Th	28	2:17 8:09 14:51 21:06	...		S	28	3:45 11:00 16:20 23:27	...		S	28	2:21 8:20 14:46 20:30	...
	F	29	3:13 9:52 15:49 22:35	...							M	29	3:20 10:30 15:45 22:50	...
	S	30	4:19 11:18 16:56 23:48	...							Tu	30	4:34 12:00 17:09 24:00	...
	S	31	5:35 12:25 18:15 25:00	...							W	31	0:20 6:02 13:05 18:34	...
			3.5 12.4 3.7	...									11.5 4.4 11.5 4.6	...

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil for the meridian 2° 20' E: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon, for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	1:24 12.2	7:15 3.5	13:53 12.4	19:38 3.5	A	S	1	1:24 12.6	7:25 3.0	13:45 12.9	19:48 2.9	O	Tu	1	1:40 13.5	8:06 2.0	13:56 13.8	20:32 1.7
	F	2	1:58 12.9	8:06 2.5	14:20 13.3	20:23 2.3	E	S	2	1:51 13.2	8:06 2.1	14:10 13.6	20:28 1.8		W	2	2:11 14.0	8:49 1.3	14:28 14.4	21:14 1.0
	S	3	2:29 13.8	8:45 1.5	14:50 13.9	21:01 1.3		M	3	2:24 14.1	8:46 1.2	14:38 14.1	21:06 1.0		Th	3	2:39 14.3	9:30 0.7	14:56 14.8	21:55 0.4
	S	4	3:00 14.5	9:20 0.6	15:11 14.3	21:38 0.4		Tu	4	2:48 14.5	9:21 0.5	14:59 14.6	21:42 0.8		F	4	3:09 14.6	10:11 0.4	15:25 15.1	22:35 0.1
	M	5	3:24 14.9	9:55 0.0	15:32 14.6	22:11 -0.1	O	W	5	3:09 14.8	9:58 0.1	15:20 15.0	22:20 -0.1		S	5	3:40 14.7	10:51 0.4	15:58 15.3	23:17 0.0
E	Tu	6	3:42 15.1	10:30 -0.3	15:50 14.9	22:48 -0.3		Th	6	3:32 15.0	10:35 0.0	15:46 15.2	22:57 -0.1	S	S	6	4:18 14.5	11:33 0.6	16:34 15.0	23:54 0.2
	W	7	4:08 15.2	11:03 -0.3	16:16 15.1	23:20 -0.2		F	7	4:01 15.0	11:13 0.2	16:15 15.2	23:34 0.1	M	7	4:49 14.1	12:15 1.1	17:12 14.6	24:09 ...	
	Th	8	4:25 15.2	11:38 0.0	16:39 15.0	23:55 0.2		S	8	4:31 14.7	11:51 0.7	16:46 15.0	23:57 ...	Tu	8	5:45 0.6	5:41 13.4	13:01 1.6	24:56 14.0	
	F	9	4:51 14.9	12:14 0.7	17:05 14.8	...	S	S	9	5:13 0.7	5:06 14.2	12:31 1.4	17:21 14.4	W	9	1:31 1.2	6:32 12.6	13:50 2.2	25:43 13.2	
	S	10	5:31 0.8	5:24 14.4	12:50 1.5	17:39 14.3		M	10	5:58 1.3	5:46 13.3	13:15 2.3	18:01 13.6	Th	10	2:23 1.7	7:49 12.0	14:43 2.7	26:30 12.7	
S	S	11	1:11 1.7	5:59 13.6	13:31 2.5	18:18 13.4		Tu	11	1:44 2.0	6:34 12.4	14:05 3.1	18:53 12.7	C	F	11	3:21 2.1	10:00 12.0	15:43 12.6	22:06 12.7
	M	12	1:56 2.6	6:45 12.5	14:20 3.5	19:06 12.4	C	W	12	2:39 2.7	7:41 11.5	15:08 3.7	20:10 11.9		S	12	4:24 2.3	11:10 12.5	16:50 2.9	23:22 13.3
	Tu	13	2:51 3.4	7:45 11.3	15:20 4.3	20:19 11.3		Th	13	3:41 3.1	10:25 11.4	16:11 4.0	22:31 12.0		S	13	5:29 2.2	12:01 13.2	18:00 2.4	24:00 ...
	W	14	3:59 3.8	10:20 11.0	16:39 4.6	22:40 11.5		F	14	4:54 3.0	11:40 12.2	17:25 3.5	23:49 13.1		M	14	0:17 13.9	6:31 1.8	12:49 14.1	19:00 1.6
	Th	15	5:17 3.7	11:59 11.8	17:58 4.0	...	S	S	15	6:00 2.3	12:30 13.4	18:34 2.4	...		Tu	15	1:06 14.7	7:30 1.0	13:35 14.9	20:00 0.6
P	F	16	6:11 12.6	6:29 2.7	12:51 13.3	19:04 2.5	E	S	16	6:41 14.1	7:04 1.3	13:14 14.6	19:30 1.0	N	W	16	1:58 15.2	8:25 0.4	14:19 15.3	20:50 -0.2
	S	17	1:06 14.0	7:34 1.2	13:41 14.6	20:00 0.8		M	17	1:30 16.2	7:59 0.1	14:00 15.5	20:23 -0.3		Th	17	2:43 15.3	9:12 -0.1	14:58 15.6	21:40 -0.7
	S	18	1:55 15.5	8:28 -0.4	14:26 15.7	21:49 -0.7		Tu	18	2:16 16.2	8:48 -0.8	14:40 16.1	21:11 -1.2		F	18	3:25 15.1	9:58 -0.3	15:40 15.5	22:25 -0.8
	M	19	2:39 16.8	9:14 -1.6	15:02 16.4	21:34 -1.8	●	W	19	2:57 16.4	9:38 -1.3	15:15 16.2	21:56 -1.7		S	19	4:06 14.6	10:40 -0.1	16:30 15.1	23:09 -0.5
	Tu	20	3:19 17.3	9:58 -2.2	15:37 16.7	22:16 -2.5		Th	20	3:36 16.2	10:15 -1.3	15:51 16.2	22:40 -1.7		S	20	4:45 13.9	11:24 0.3	16:55 14.6	23:54 ...
N	W	21	3:58 17.2	10:39 -2.2	16:12 16.7	22:59 -2.4		F	21	4:17 15.6	11:00 -0.8	16:29 15.6	23:26 -1.1	D	M	21	5:23 13.1	12:06 1.0	17:40 13.7	24:46 12.9
	Th	22	4:37 16.6	11:20 -1.7	16:48 16.2	23:43 -1.8	N	S	22	4:57 14.6	11:41 0.0	17:04 14.8	...		Tu	22	6:36 0.8	6:00 12.3	12:50 1.8	19:10 12.9
	F	23	5:15 15.6	12:03 -0.6	17:23 15.2	...		S	23	5:10 -0.2	5:36 13.4	12:26 1.0	17:41 13.7		W	23	1:19 1.6	6:38 11.6	13:34 2.6	18:50 12.2
	S	24	0:27 -0.6	5:53 14.2	12:46 0.7	18:00 13.9		M	24	0:56 0.9	6:15 12.2	13:10 2.2	18:25 12.6		Th	24	2:02 2.5	7:30 11.0	14:19 3.4	20:20 11.5
	S	25	1:12 0.8	6:35 12.5	13:31 2.2	18:37 12.5		Tu	25	1:41 2.0	7:20 11.2	13:58 3.3	19:26 11.6		F	25	2:50 3.1	9:50 10.7	15:09 4.0	22:00 11.1
D	M	26	2:01 2.2	7:35 11.2	14:21 3.6	19:50 11.3		W	26	2:33 3.0	9:50 10.6	14:49 4.2	22:00 11.1	A	S	26	3:41 3.7	10:50 10.8	16:04 4.4	22:54 11.2
	Tu	27	2:56 3.4	10:20 10.5	15:18 4.6	22:40 11.0	D	Th	27	3:29 3.8	11:00 10.7	15:50 4.7	23:10 11.4		S	27	4:38 4.0	11:30 11.1	17:05 4.4	23:26 11.4
	W	28	4:04 4.2	11:30 10.7	16:30 5.1	23:50 11.5	A	F	28	4:30 4.1	11:48 11.1	16:58 4.7	23:56 11.7		M	28	5:38 4.0	12:09 11.7	18:10 4.1	...
	Th	29	5:20 4.4	12:31 11.3	17:50 4.8	...		S	29	5:35 4.0	12:26 11.6	18:04 4.2	...		Tu	29	6:11 12.0	6:28 3.7	12:41 12.5	19:02 3.4
	F	30	6:42 12.0	6:31 3.8	13:15 12.0	18:59 3.9	E	S	30	6:34 12.1	6:33 3.6	13:00 12.3	19:00 3.5		W	30	6:56 12.8	7:24 2.8	13:20 13.3	19:58 2.5
							M	31	1:03 12.6	7:20 2.8	13:24 13.2	19:49 2.6								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; ○, full moon; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.							AUGUST.							SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.						W.	Mo.						W.	Mo.						
S	Th	1	1:38	8:16	13:58	20:46	C	S	1	2:45	9:32	15:00	21:58	P	W	1	3:55	10:37	16:08	23:05		
			13.4	2.0	14.0	1.5				14.3	0.5	15.3	-0.4				16.0	-1.7	17.1	-2.3		
	F	2	2:15	9:06	14:34	21:34		P	M	2	3:25	10:17	15:40		22:42	E	Th	2	4:32	11:20	16:48	23:45
			13.8	1.2	14.6	0.6					14.8	-0.3	16.0		-1.2				16.1	-2.0	16.9	-2.0
	S	3	2:52	9:50	15:10	22:16					4:05	10:58	16:22		23:25				5:10	12:00	17:27	...
			14.3	0.6	15.1	0.0	P	Tu	3	4:05	10:58	16:22	23:25	C	F	3	5:10	12:00	17:27	...		
S	4	3:30	10:34	15:48	23:00	P		W	4	4:46	11:40	17:05	...		E	S	4	0:28	5:48	12:44	18:08	
		14.5	0.2	15.4	-0.4					15.1	-0.9	16.1	...					-1.4	15.1	-0.9	15.2	
M	5	4:10	11:18	16:27	23:42					0:08	5:30	12:25	17:46					1:10	6:30	13:30	18:55	
			14.6	0.1	15.4	-0.5		E	Th	5	-1.4	14.8	-0.7		15.6	C	S	5	-0.2	14.2	0.3	14.0
Tu	6	4:54	12:00	17:08	...	E	F		6	0:54	6:14	13:08	18:34	C	M		6	1:56	7:11	14:21	20:10	
		14.8	0.2	15.1	...					-0.9	14.3	-0.2	14.9					1.2	13.1	1.5	12.6	
W	7	0:29	5:39	12:45	17:54					1:40	7:00	13:55	19:28					2:50	8:54	15:20	22:30	
		-0.3	13.9	0.5	14.7	C	S		7	0.0	13.6	0.7	14.0	N	Tu		7	2.6	11.9	2.8	11.6	
Th	8	1:14	6:30	13:30	18:46		C	S	8	2:25	8:12	14:46	20:58		N	W	8	3:52	11:00	16:34	23:50	
		0.0	13.3	1.0	14.1					1.0	12.9	1.7	13.0					3.8	11.4	3.7	11.5	
F	9	2:04	7:38	14:20	19:54					3:20	9:52	15:47	22:34					5:10	12:10	18:00	...	
		0.6	12.9	1.5	13.5		N	M	9	2.1	12.3	2.6	12.4		A	Th	9	4.4	11.9	3.8	...	
S	10	2:55	9:18	15:15	21:35	N		Tu	10	4:20	11:12	16:58	23:50	A		F	10	0:55	6:30	13:10	19:16	
		1.3	12.5	2.1	13.0					3.1	12.0	3.2	12.4					12.0	4.0	12.6	3.0	
S	11	3:52	10:32	16:16	22:54					5:35	12:18	18:16	...					1:45	7:37	13:55	20:10	
		2.0	12.5	2.5	13.0	N		W	11	3.6	12.4	3.2	...	A		S	11	12.8	3.0	13.4	2.0	
M	12	4:55	11:35	17:28	...		N	Th	12	0:50	6:48	13:10	19:27		A	S	12	2:25	8:24	14:34	20:55	
		2.4	12.8	2.7	...					12.7	3.8	12.9	2.6					13.8	1.9	14.4	1.0	
Tu	13	0:00	6:05	12:30	18:35					1:44	7:50	13:58	20:24					3:00	9:05	15:08	21:30	
		13.3	2.6	13.2	2.4		A	F	13	13.8	2.5	13.7	1.6		D	M	13	14.2	0.9	15.0	0.2	
W	14	0:52	7:06	13:16	19:40	A		S	14	2:34	8:40	14:44	21:12	D		Tu	14	3:27	9:44	15:42	22:08	
		13.7	2.2	13.9	1.7					13.8	1.6	14.5	0.7					14.5	0.2	15.2	-0.3	
Th	15	1:45	8:05	14:05	20:35					3:16	9:26	15:25	21:54					3:50	10:20	16:04	22:40	
		14.1	1.6	14.5	0.8	A		S	15	14.1	0.8	15.0	0.1	E		W	15	14.5	-0.3	15.1	-0.4	
F	16	2:36	8:54	14:50	21:25		A	M	16	3:48	10:05	16:00	22:31		E	Th	16	4:10	10:56	16:20	23:16	
		14.3	1.0	14.9	0.1					14.2	0.2	15.0	-0.3					14.5	-0.3	14.9	-0.2	
S	17	3:20	9:40	15:34	22:10					4:17	10:44	16:30	23:09					4:28	11:30	16:40	23:50	
		14.3	0.4	15.0	-0.2		A	W	18	14.0	0.0	14.9	-0.2		E	F	17	14.4	0.0	14.6	0.3	
S	18	4:00	10:25	16:12	22:52	A		Th	19	4:58	11:58	17:15	...	E		S	18	4:48	12:08	17:00	...	
		14.1	0.2	14.9	-0.3					13.9	0.1	14.5	0.1					14.3	0.6	14.3	...	
M	19	4:36	11:05	16:50	23:33					4:58	11:58	17:15	...					0:22	5:12	12:42	17:24	
		13.7	0.8	14.6	0.0	A		F	20	0:20	5:20	12:35	17:40	D		M	20	1.0	5:40	13:13	18:00	
Tu	20	5:08	11:46	17:20	...		A		0.6	13.3	1.0	13.6	D			1.9	13.7	2.2	13.2			
		13.3	0.6	14.1	...					0:56	5:45	13:12			18:00			1:38	6:16	14:00	18:38	
W	21	0:12	5:34	12:25	17:46					1.4	13.0	1.8			13.2			2.9	13.0	3.2	12.3	
		0.5	12.8	1.1	13.5		A	S	22	1:34	6:18	13:50	18:34		D	W	22	2:24	7:06	14:52	19:34	
Th	22	0:50	5:58	13:06	18:11	A			2.2	12.8	2.6	12.6	D			3.8	12.0	4.0	11.3			
		1.1	12.3	1.8	12.9					2:12	6:58	14:34		19:17				3:20	8:06	15:56	21:20	
F	23	1:32	6:26	13:46	18:43					3.0	12.2	3.5		11.9				4.7	11.1	4.5	10.5	
		1.9	11.9	2.5	12.4	D		M	23	2:58	7:48	15:25	20:18	E		F	24	4.35	10:45	17:15	23:55	
S	24	2:10	7:02	14:28	19:24		D	Tu	24	3.9	11.5	4.2	11.1		E		5.0	10.9	4.4	11.3		
		2.6	11.6	3.2	11.8					3:55	9:25	16:34	22:20					6:00	12:12	18:30	...	
S	25	2:55	7:56	15:15	20:20					4.6	10.9	4.7	10.8					4.5	11.9	3.4	...	
		3.4	11.2	3.9	11.3		S	Th	26	5:05	11:25	17:38	23:56		P	S	26	0:50	7:04	13:04	19:34	
M	26	3:44	9:40	16:10	22:00	S			4.8	11.2	4.5	11.5	P			12.6	8.1	13.3	1.7			
		4.0	11.0	4.4	11.1					6:15	12:28	18:55		...				1:38	8:00	13:52	20:28	
Tu	27	4:42	11:05	17:18	23:18					4.3	12.0	3.5		...				14.0	1.4	14.9	0.0	
		4.3	11.2	4.5	11.3	P		F	27	0:56	7:27	13:22	19:58	E		Tu	28	2:22	8:48	14:32	21:14	
W	28	5:35	12:00	18:18	...		P		12.6	3.1	13.2	1.9	E			15.3	-0.3	16.5	-1.4			
		4.3	11.8	4.2	...					1:52	8:24	14:10			20:50			3:00	9:34	15:12	21:56	
Th	29	0:17	6:45	12:50	19:25					13.7	1.6	14.8			0.4			16.2	-1.6	17.8	-2.3	
		12.0	3.7	12.6	8.2		S	M	30	2:35	9:12	14:50	21:30		E	Th	30	3:35	10:16	15:50	22:38	
F	30	1:14	7:48	13:38	20:21	S			14.7	0.1	15.9	-1.0	E			16.7	-2.4	17.6	-2.6			
		12.8	2.7	13.6	1.9					3:16	9:58	15:30		22:20								
S	31	2:02	8:44	14:20	21:12					15.5	-1.0	16.7		-1.9								
		13.6	1.5	14.5	0.6	C		Tu	31													

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day, a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 8.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil for the meridian 2° 20' E.; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.									W.	Mo.									W.	Mo.										
N C	F	1	4:10	10:56	16:30	23:20				M	1	5:00	12:04	17:25						W	1	0 04	5 25	12:34	17:55							
			16.8	-2.5	17.2	-2.2							15.7	-1.0	14.6							0.4	14.5	0.2	12.8							
	S	2	4:45	11:38	17:05					N	Tu	2	0:22	5:37	12:50	18:06					Th	2	0:48	6:00	13:20	18:17						
			16.4	-2.0	16.4								0.3	14.5	0.3	13.1						1.5	13.3	1.4	11.7							
	S	3	0:02	5:20	12:24	17:45				W	3	1:08	6:10	13:40	18:55						F	3	1:35	6:47	14:10	21:27						
			-1.3	15.6	-1.2	15.1							1.7	13.1	1.7	11.6						2.6	12.2	2.5	10.9							
	M	4	0:45	5:55	13:10	18:28				C	Th	4	2:00	7:02	14:36	22:10					C	S	4	2:28	9:39	15:06	22:42					
			0.0	14.5	0.2	13.5							3.1	11.8	2.9	10.7						3.7	11.4	3.3	10.8							
	Tu	5	1:30	6:36	14:00	19:20				F	5	2:55	10:28	15:40	23:22						S	5	3:25	10:54	16:08	23:35						
			1.5	13.1	1.7	12.0							4.3	11.2	3.8	10.9						4.4	11.5	3.9	11.2							
E A	W	6	2:24	7:34	14:58	22:25				S	6	4:04	11:36	16:56							M	6	4:30	11:44	17:14							
			3.1	11.7	3.0	11.0							4.8	11.8	4.1							4.6	11.8	4.0								
	Th	7	3:22	10:50	16:10	23:44				S	7	0:18	5:25	12:27	18:10						E	Tu	7	0:20	5:40	12:28	18:16					
			4.3	11.2	4.0	11.1							11.6	4.6	12.4	8.7						11.6	4.3	12.1	3.7							
	F	8	4:40	12:00	17:34					M	8	1:02	6:38	13:10	19:08							W	8	0:56	6:45	13:02	19:08					
			4.9	11.8	4.1								12.3	3.9	12.9	3.0							12.1	3.7	12.5	3.2						
	S	9	0:44	6:06	12:58	18:50				A	Tu	9	1:38	7:30	13:44	19:52						Th	9	1:24	7:35	13:34	19:52					
			11.8	4.5	12.6	3.3							13.0	2.8	13.4	2.1							12.9	2.9	13.2	2.4						
	S	10	1:32	7:12	13:40	19:46				E	W	10	2:00	8:10	14:12	20:30						F	10	1:55	8:20	14:06	20:35					
			12.6	8.4	13.3	2.4							13.8	1.8	14.2	1.3							13.6	2.0	13.7	1.6						
S	M	11	2:04	8:00	14:12	20:26				Th	11	2:30	8:50	14:40	21:06						S	11	2:20	9:00	14:34	21:15						
			13.5	2.2	14.0	1.4							14.2	1.0	14.5	0.7							14.1	1.3	14.0	1.0						
	Tu	12	2:35	8:42	14:44	21:02				F	12	2:50	9:25	15:00	21:40						S	12	2:47	9:40	15:00	21:55						
			14.2	1.1	14.8	0.5							14.6	0.4	14.6	0.3							14.6	0.7	14.2	0.6						
	W	13	3:00	9:20	15:10	21:36				S	13	3:12	10:06	15:24	22:18							M	13	3:15	10:20	15:30	22:34					
			14.5	0.3	15.0	0.0							14.9	0.1	14.7	0.2							14.9	0.3	14.5	0.5						
	Th	14	3:20	9:55	15:30	22:10				S	14	3:32	10:42	15:46	22:55							Th	14	3:45	11:00	16:00	23:15					
			14.8	-0.2	15.1	-0.3							15.1	0.1	14.7	0.4							15.1	0.1	14.4	0.6						
	F	15	3:40	10:30	15:50	22:45				M	15	4:00	11:18	16:14	23:30							W	15	4:16	11:40	16:36	23:54					
			14.9	-0.3	15.0	-0.1							15.1	0.4	14.5	1.0							15.1	0.2	14.1	0.9						
D	S	16	3:57	11:05	16:10	23:20				Tu	16	4:28	11:56	16:45							Th	16	4:50	12:22	17:16							
			15.0	-0.1	14.8	0.3							15.0	0.8	14.2								14.8	0.6	13.7							
	S	17	4:20	11:40	16:35	23:54				S	17	0:10	4:58	12:36	17:20							F	17	0:36	5:30	13:18	18:00					
			14.9	0.4	14.6	1.0							1.5	14.5	1.4	13.5							1.4	14.3	1.0	13.9						
	M	18	4:45	12:16	17:00					Th	18	0:54	5:38	13:22	18:04							S	18	1:22	6:14	13:55	18:54					
			14.8	1.1	14.1								2.3	13.8	2.1	12.5							2.0	13.7	1.5	12.5						
	Tu	19	0:30	5:17	12:58	17:35				F	19	1:40	6:20	14:14	18:56							S	19	2:12	7:10	14:50	20:16					
			1.8	14.3	2.0	13.5							8.1	12.9	2.8	11.7							2.5	13.0	2.0	11.5						
	W	20	1:10	5:50	13:38	18:15				D	S	20	2:32	7:18	15:12	20:42						M	20	3:08	8:34	15:50	22:30					
			2.8	13.5	2.8	12.5							3.7	12.1	3.2	11.0							3.0	12.5	2.4	12.0						
E P O	Th	21	1:56	6:36	14:30	19:07				S	21	3:38	9:12	16:20	23:20							Tu	21	4:15	10:34	16:55	23:35					
			3.7	12.5	8.6	11.4							4.1	11.6	3.2	11.7							3.2	12.7	2.5	12.6						
	F	22	2:55	7:34	15:35	20:50				M	22	4:50	11:18	17:30								W	22	5:25	11:47	17:58						
			4.5	11.4	4.1	10.5							3.8	12.5	2.7								2.9	13.4	2.3							
	S	23	4:08	10:04	16:52	22:42				E	Tu	23	0:10	6:02	12:14	18:34						Th	23	0:25	6:32	12:42	19:04					
			4.8	11.0	4.0	11.3							12.8	2.9	13.7	1.8							13.5	2.1	14.1	1.7						
	S	24	5:28	11:49	18:00					W	24	0:54	7:02	13:02	19:30							F	24	1:14	7:32	13:34	20:00					
			4.3	12.2	3.1								14.1	1.5	14.7	0.7							14.4	1.2	15.0	0.7						
	M	25	0:35	6:38	12:42	19:05				P	Th	25	1:36	7:57	13:51	20:22						S	25	1:59	8:30	14:25	20:55					
			12.8	3.0	13.6	1.7							15.2	0.2	16.0	-0.5							15.2	0.1	15.3	0.0						
N	Tu	26	1:18	7:32	13:28	20:00				F	26	2:18	8:47	14:35	21:10						C	S	26	2:42	9:20	15:08	21:36					
			14.3	1.3	15.0	0.0							16.0	-0.9	16.5	-1.2							15.7	-0.8	15.4	-0.4						
	W	27	2:00	8:20	14:15	20:47				O	S	27	2:54	9:34	15:15	21:54						N	M	27	3:22	10:06	15:50	22:22				
			15.5	-0.3	16.5	-1.3							16.5	-1.7	16.5	-1.4							15.9	-1.2	15.2	-0.6						
	Th	28	2:40	9:10	14:50	21:32				S	28	3:30	10:18	15:55	22:38							Tu	28	4:05	10:50	16:50	23:05					
			16.4	-1.6	17.2	-2.0							16.6	-1.9	16.0	-1.2							15.8	-1.2	14.6	-0.4						
N	F	29	3:15	9:54	15:30	22:16				N	M	29	4:08	11:04	16:35	23:20						W	29	4:42	11:34	17:10	23:46					
			1																													

JANUARY.										FEBRUARY.										MARCH.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Moon.	Day of—	Time and Height of High and Low Water.								Moon.	Day of—	Time and Height of High and Low Water.								Moon.	Day of—	Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	1:22	7:56	13:58	20:22	A	S	1	1:34	8:03	13:58	20:26	O	Tu	1	2:06	8:33	14:25	20:17
			14.3	4.9	14.3	4.4			14.9	4.2	15.1	3.7				16.1	3.0	16.7	2.7	
	F	2	2:14	8:45	14:38	21:04	E	S	2	2:15	8:42	14:34	21:02		W	2	2:43	9:12	15:04	21:04
			15.3	3.6	15.3	3.1			15.9	3.0	16.2	2.6				17.0	2.2	17.5	1.8	
	S	3	2:54	9:22	15:15	21:39	M	3	2:50	9:17	15:07	21:36	Th		3	3:32	9:50	15:42	21:12	
E			16.3	2.4	16.4	2.0			16.8	2.0	17.2	1.7			17.8	1.5	18.3	1.2		
	S	4	3:30	9:56	15:45	22:12	Tu	4	3:22	9:50	15:38	22:07	S	F	4	4:00	10:29	16:20	21:56	
			17.3	1.6	17.4	1.1			17.7	1.3	18.2	1.1				18.3	1.3	18.7	0.9	
	M	5	4:00	10:27	16:15	22:40	W	5	3:55	10:22	16:10	22:38		S	5	4:39	11:08	16:58	22:30	
			18.1	0.9	18.1	0.7			18.5	0.9	18.6	0.8				18.4	1.4	18.7	1.0	
Tu	6	4:30	10:55	16:42	23:10	Th	6	4:27	10:53	16:42	23:10	S		6	5:18	11:47	17:38			
O			18.6	0.6	18.5	0.7			18.7	0.9	18.8	0.9			18.1	1.7	18.3			
	W	7	4:55	11:20	17:08	23:36	F	7	4:58	11:25	17:13	23:45	M	7	0:11	6:03	12:29	18:23		
			18.7	0.9	18.5	1.0			18.6	1.3	18.5	1.2			1.3	17.5	2.4	17.5		
	Th	8	5:23	11:50	17:36		S	8	5:32	11:58	17:49		Tu	8	0:54	6:52	13:13	19:11		
			18.6	1.3	18.2				18.2	1.9	18.0				1.9	16.7	3.1	16.7		
S	F	9	0:05	5:54	12:07	18:08	S	S	9	0:17	6:10	12:32	18:28	W	9	1:43	7:48	14:06	20:12	
			1.5	18.1	2.0	17.7			1.9	17.4	2.7	17.1			2.6	15.8	3.9	15.8		
	S	10	0:32	6:26	12:48	18:42	M	10	0:56	6:53	13:15	19:16	Th	10	2:38	8:54	15:04	21:29		
			2.2	17.4	2.7	16.9			2.6	16.4	3.6	16.0			3.3	15.1	4.5	15.1		
	S	11	1:05	7:04	13:24	19:22	Tu	11	1:43	7:48	14:05	20:12	C	F	11	3:43	10:17	16:13	22:34	
C			3.0	16.4	3.6	15.8			3.5	15.2	4.6	14.8				3.8	14.8	4.8	15.2	
	M	12	1:45	7:52	14:08	20:15	W	12	2:40	9:00	15:09	21:32		E	S	12	4:52	11:18	17:24	23:43
			3.9	15.2	4.7	14.5			4.4	14.2	5.5	14.1					3.9	15.0	4.6	15.3
	Tu	13	2:40	9:00	15:10	21:38	Th	13	3:57	10:27	16:34	22:58			S	13	6:02	12:18	18:34	
			4.9	13.9	5.8	13.5			5.0	13.9	5.9	14.5				3.7	15.8	3.9		
W	14	4:02	10:38	16:46	23:18	F	14	5:20	11:48	18:00		M	14		0:43	7:08	13:13	19:35		
P			5.7	13.3	6.5	13.7			4.8	14.5	5.2				16.5	3.1	16.5	2.9		
	Th	15	5:42	12:10	18:28		S	15	0:12	6:35	12:50	19:08	Tu	15	1:37	8:05	14:02	20:10		
			5.5	14.0	5.7				16.5	3.8	15.7	3.7			17.2	2.2	17.4	1.7		
	F	16	0:37	7:05	13:15	19:38	E	S	16	1:10	7:38	13:41	20:05	W	16	2:27	8:55	14:50	21:28	
			15.1	4.2	15.5	8.8				16.8	2.5	17.0	2.1			17.9	1.3	18.2	0.8	
S	17	1:37	8:00	14:06	20:32	M		17	2:02	8:30	14:27	20:52	N	Th	17	3:15	9:42	15:36	22:07	
		16.8	2.3	17.2	1.8				18.1	1.0	18.4	0.6				18.4	0.8	18.7	0.3	
S	18	2:27	8:56	14:54	21:18	Tu		18	2:48	9:17	15:11	21:38		F	18	4:00	10:27	16:08	22:50	
		18.5	0.4	18.8	0.0			19.2	0.0	19.3	-0.5				18.5	0.6	18.8	0.2		
M	19	3:12	9:42	15:35	22:00	N	W	19	3:33	10:00	15:52	22:22		S	19	4:44	11:09	16:58	23:22	
		19.9	-0.9	20.2	-1.3				19.9	-0.6	20.0	-0.9			18.2	0.9	18.7	0.5		
Tu	20	3:55	10:22	16:16	22:43		Th	20	4:16	10:42	16:34	23:02	A	S	20	5:25	11:30	17:40		
		20.9	-1.7	20.8	-1.9				20.0	-0.6	20.0	-0.9				17.6	1.5	18.1		
W	21	4:36	11:04	16:56	23:22		F	21	4:58	11:23	17:13	23:45		M	21	0:14	6:06	12:30	18:34	
		21.3	-1.8	20.9	-1.8			19.6	0.0	19.5	-0.2				1.2	16.8	2.3	17.2		
Th	22	5:16	11:43	17:32		S	22	5:38	12:03	17:55		Tu		22	0:56	6:49	13:10	19:08		
N			20.8	-1.1	20.3				18.6	1.0	18.6				2.2	15.9	3.3	16.2		
	F	23	0:03	5:56	12:24	18:15	S	23	0:27	6:21	12:45	18:40	W	23	1:38	7:33	13:53	19:55		
			-1.0	19.8	0.1	19.1			0.8	17.4	2.2	17.3			3.2	15.0	4.3	15.2		
	S	24	0:45	6:42	13:04	19:00	M	24	1:12	7:07	13:28	19:28	Th	24	2:20	8:23	14:35	20:06		
			0.3	18.2	1.7	17.6			2.1	16.0	3.6	15.9			4.2	14.2	5.1	14.3		
D	S	25	1:27	7:28	13:48	19:48	Tu	25	1:58	8:00	14:16	20:25	E	F	25	3:05	9:17	15:23	21:42	
			1.9	16.5	3.4	15.9			3.5	14.6	4.9	14.6				4.9	13.7	5.7	13.9	
	M	26	2:16	8:25	14:38	20:51	W	26	2:50	9:08	15:12	21:32		S	26	3:55	10:15	16:18	22:40	
			3.6	14.7	5.0	14.3			4.7	13.7	5.9	13.7				5.4	13.5	6.1	13.7	
	Tu	27	3:15	9:38	15:45	22:11	Th	27	3:52	10:17	16:22	22:45		S	27	4:50	11:13	17:22	23:38	
A			5.0	13.4	6.3	13.4			5.5	13.1	6.5	13.6			5.6	13.7	6.1	14.0		
	W	28	4:32	11:08	17:16	23:38	F	28	4:59	11:27	17:36	23:50	M	28	5:50	12:08	18:25			
			6.0	12.9	6.8	13.5			5.9	13.2	6.4	13.8			5.5	14.2	5.7			
	Th	29	5:58	12:20	18:42		S	29	6:07	12:21	18:42		Tu	29	0:30	6:50	12:59	19:23		
			6.0	13.2	6.2				5.7	13.8	5.7				14.5	5.0	15.0	4.5		
M	F	30	0:43	7:12	13:15	19:42	E	S	30	0:40	7:04	13:06	19:33	W	30	1:20	7:47	13:46	20:15	
			14.0	5.8	14.1	5.0			14.5	5.5	14.7	4.8			15.3	4.1	15.9	3.7		
						M	31	1:21	7:50	13:47	20:17									
								15.2	4.0	15.7	3.7									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.									
MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.				MOON.	Day of—		Time and Height of High and Low Water.												
	W.	Mo.						W.	Mo.						W.	Mo.													
U	Th	1	2:08 16.2	8:38 3.1	14:33 16.9	21:03 2.6	○ S	1	8:25 17.9	9:55 1.3	15:47 18.7	22:20 0.3	P W	1	4:38 20.3	11:03 -1.3	16:57 21.2	23:27 -1.9											
	F	2	2:54 17.1	9:25 2.2	15:20 17.8	21:50 1.5	M	2	4:12 18.8	10:40 0.4	16:32 19.6	23:03 -0.5	E Th	2	5:20 20.6	11:45 -1.5	17:40 21.3	24:00 ...											
	S	3	3:40 18.0	10:10 1.5	16:08 18.5	22:34 0.8	Tu	3	4:57 19.3	11:23 -0.1	17:15 20.1	23:48 -0.9	F	3	0:08 -1.7	6:00 20.2	12:25 -1.1	18:23 20.6											
	S	4	4:25 18.4	10:55 1.1	16:45 19.0	23:18 0.4	P W	4	5:40 19.4	12:06 -0.2	18:01 20.1	...	S	4	0:50 -0.9	6:45 19.4	13:06 -0.1	19:09 19.5											
	M	5	5:08 18.5	11:38 1.0	17:30 19.0	...	Th	5	0:31 -0.7	6:26 19.1	12:48 0.2	18:47 19.6	S	5	1:32 0.4	7:30 18.1	13:50 1.2	20:00 17.8											
P	Tu	6	0:08 0.3	5:56 18.3	12:22 1.3	18:15 18.7	E F	6	1:15 -0.1	7:13 18.4	13:32 0.9	19:37 18.7	○ M	6	2:18 2.0	8:23 16.6	14:40 2.8	20:57 16.1											
	W	7	0:47 0.6	6:45 17.7	13:07 1.8	19:05 18.1	S	7	2:00 0.9	8:03 17.4	14:18 1.9	20:28 17.5	Tu	7	3:12 3.7	9:25 15.0	15:42 4.3	22:10 14.6											
	Th	8	1:34 1.2	7:36 17.0	13:58 2.4	19:59 17.3	○ S	8	2:48 2.0	8:58 16.3	15:10 3.1	21:30 16.2	N W	8	4:21 5.2	10:45 14.2	17:02 5.3	23:36 14.0											
	F	9	2:24 2.0	8:33 16.3	14:45 3.5	20:58 16.5	M	9	3:45 3.4	10:02 15.3	16:12 4.2	22:38 15.2	Th	9	5:51 5.8	12:08 14.2	18:37 5.3	...											
	S	10	3:18 2.7	9:35 15.7	15:42 3.8	22:03 16.0	Tu	10	4:52 4.5	11:15 14.8	17:28 4.8	23:53 14.8	F	10	0:58 14.1	7:20 5.3	13:20 14.8	19:54 4.4											
C	S	11	4:18 3.5	10:42 15.3	16:48 3.8	23:10 15.7	W	11	6:12 5.0	12:26 14.9	18:32 4.7	...	S	11	1:56 14.8	8:22 4.0	14:15 15.7	20:50 3.1											
	M	12	5:27 3.9	11:47 15.3	17:59 4.3	...	N Th	12	1:08 14.9	7:30 4.6	13:30 15.4	20:04 3.9	S	12	2:45 15.7	9:08 2.7	15:02 16.8	21:32 2.0											
	Tu	13	0:16 15.8	6:37 4.0	12:47 15.7	19:10 3.8	F	13	2:06 15.3	8:33 3.6	14:27 16.2	21:02 2.8	M	13	3:25 16.6	9:47 1.6	15:40 17.6	22:08 1.2											
	W	14	1:16 16.0	7:45 3.5	13:43 16.3	20:13 3.0	S	14	2:57 16.1	9:23 2.5	15:15 17.0	21:48 1.8	● Tu	14	4:00 17.4	10:23 1.0	16:15 18.2	22:40 0.7											
	Th	15	2:12 16.4	8:42 2.7	14:35 17.0	21:10 2.0	S	15	3:42 16.7	10:05 1.7	15:58 17.7	22:28 1.2	W	15	4:32 17.9	10:50 0.7	16:46 18.5	23:12 0.7											
N	F	16	3:03 17.0	9:32 2.0	15:25 17.6	21:57 1.3	● M	16	4:22 17.2	10:45 1.2	16:37 18.2	23:05 0.9	E Th	16	5:00 18.0	11:24 0.8	17:13 18.4	23:40 1.1											
	S	17	3:50 17.3	10:16 1.4	16:10 18.0	22:41 0.9	Tu	17	4:57 17.5	11:20 1.0	17:10 18.8	23:38 1.0	F	17	5:25 17.8	11:52 1.4	17:40 18.0	...											
	S	18	4:34 17.4	10:58 1.3	16:50 18.2	23:22 0.9	W	18	5:28 17.4	11:52 1.3	17:42 18.0	...	S	18	0:05 1.7	5:50 17.5	12:17 2.1	18:05 17.5											
	M	19	5:14 17.2	11:38 1.5	17:27 18.0	...	A Th	19	0:10 1.4	5:55 17.1	12:23 1.9	18:12 17.5	S	19	0:30 2.4	6:15 17.0	12:40 2.8	18:33 16.9											
	Tu	20	0:00 1.3	5:50 16.8	12:13 2.0	18:05 17.5	F	20	0:40 2.1	6:25 16.7	12:50 2.7	18:42 16.9	M	20	0:54 3.1	6:45 16.4	13:08 3.5	19:04 16.1											
A	W	21	0:35 1.9	6:25 16.3	12:50 2.7	18:43 16.9	S	21	1:05 2.8	6:54 16.2	13:15 3.4	19:10 16.2	Tu	21	1:25 3.8	7:22 15.5	13:42 4.3	19:45 15.0											
	Th	22	1:11 2.6	7:02 15.8	13:23 3.5	19:20 16.1	S	22	1:32 3.5	7:26 15.6	13:42 4.0	19:45 15.4	○ W	22	2:03 4.7	8:08 14.4	14:28 5.1	20:43 13.9											
	F	23	1:45 3.5	7:37 15.2	13:55 4.3	19:57 15.3	M	23	2:08 4.2	8:04 14.9	14:18 4.7	20:25 14.6	s Th	23	2:57 5.8	9:18 13.3	15:40 5.9	22:11 13.0											
	S	24	2:17 4.2	8:17 14.6	14:27 4.9	20:38 14.5	○ Tu	24	2:42 4.9	8:53 14.1	15:05 5.4	21:23 13.7	F	24	4:23 6.6	10:57 13.1	17:18 6.2	23:50 13.4											
	S	25	2:53 4.8	9:02 14.1	15:10 5.4	21:25 14.0	W	25	3:37 5.6	10:02 13.4	16:14 6.0	22:42 13.3	S	25	6:10 6.3	12:27 14.3	18:52 5.1	...											
D	M	26	3:39 5.3	9:58 13.7	16:03 5.8	22:25 13.7	Th	26	4:56 6.2	11:28 13.5	17:45 6.1	...	S	26	1:04 14.8	7:30 4.6	13:32 16.0	20:00 3.1											
	Tu	27	4:37 5.7	11:08 13.7	17:10 6.0	23:32 13.8	s F	27	0:08 13.7	6:33 5.9	12:48 14.5	19:14 5.0	M	27	2:02 16.6	8:28 2.5	14:23 17.9	20:53 1.0											
	W	28	5:49 5.8	12:12 14.1	18:30 5.7	...	S	28	1:20 14.9	7:49 4.5	13:50 16.0	20:20 3.2	Tu	28	2:48 18.4	9:16 0.5	15:10 19.6	21:38 -0.7											
	Th	29	0:40 14.5	7:04 5.2	13:13 15.1	19:40 4.6	S	29	2:18 16.5	8:48 2.7	14:42 17.7	21:13 1.3	○ W	29	3:34 20.0	9:59 -1.0	15:54 20.9	22:22 -1.9											
	F	30	1:40 15.4	8:10 4.0	14:08 16.3	20:40 3.1	M	30	3:08 18.2	9:38 0.9	15:30 19.2	22:00 -0.3	Th	30	4:15 21.0	10:40 -1.9	16:35 21.8	23:02 -2.3											
S	S	31	2:34 16.6	9:05 2.6	14:58 17.6	21:32 1.6	○ Tu	31	3:55 19.5	10:22 -0.5	16:16 20.4	22:45 -1.4																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N C	F	1	4:56	11:20	17:15	23:42				M	1	0:00	5:52	12:21	18:18				W	1	0:25	6:20	12:53	18:49					
			21.2	-2.2	21.7	-1.9						-0.3	19.7	-0.3	18.8					1.5	18.1	1.3	18.7						
	S	2	5:34	12:00	17:58				N	Tu	2	0:42	6:37	13:07	19:07				Th	2	1:11	7:08	13:40	19:40					
			20.8	-1.6	20.9							1.1	18.3	1.2	17.1					2.8	16.8	2.7	15.7						
	S	3	0:24	6:16	12:40	18:42				W	3	1:27	7:28	13:56	20:03				F	3	1:59	8:05	14:33	20:40					
			-0.9	19.9	-0.5	19.4						2.8	16.5	2.9	15.3					4.1	15.4	4.1	14.2						
	M	4	1:05	7:00	13:25	19:30				Th	4	2:20	8:28	14:55	21:16				S	4	2:55	9:10	15:32	21:55					
			0.6	18.4	1.0	17.6						4.5	14.9	4.4	13.9					5.3	14.3	5.0	13.5						
	Tu	5	1:50	7:50	14:16	20:28				F	5	3:25	9:48	16:10	22:46				S	5	4:00	10:22	16:38	23:07					
			2.4	16.6	2.8	15.7						5.8	14.0	5.4	13.3					6.0	13.9	5.5	13.4						
	W	6	2:43	8:55	15:17	21:43				S	6	4:52	11:15	17:35					M	6	5:13	11:32	17:45						
			4.1	14.9	4.5	14.1						6.4	13.8	5.7						6.2	14.0	5.6							
E A	Th	7	3:33	10:18	16:38	23:17				S	7	0:02	6:18	12:25	18:50				Tu	7	0:06	6:22	12:25	18:50					
			5.8	13.9	5.5	13.5						13.5	6.0	14.3	5.1					13.8	5.8	14.3	5.2						
	F	8	5:28	11:48	18:13				M	8	1:00	7:22	13:18	19:47				W	8	0:54	7:18	13:12	19:38						
			6.3	14.0	5.5						14.2	5.0	15.0	4.2					14.4	5.0	14.9	4.4							
	S	9	0:35	6:58	13:00	19:30			A	Tu	9	1:45	8:10	14:00	20:27				Th	9	1:36	8:04	13:53	20:20					
			13.7	5.7	14.5	4.6						15.1	8.8	15.9	3.1					15.3	4.1	15.6	3.5						
	S	10	1:37	8:00	13:53	20:25				W	10	2:21	8:47	14:36	21:02				F	10	2:14	8:45	14:31	21:00					
			14.5	4.4	15.5	8.5						16.1	3.2	16.7	2.3					16.2	3.1	16.4	2.7						
	M	11	2:22	8:44	14:36	21:05				Th	11	2:54	9:22	15:09	21:36				S	11	2:51	9:23	15:08	21:37					
			15.5	3.0	16.5	2.3						17.0	2.0	17.4	1.6					17.0	2.3	17.1	2.1						
	Tu	12	2:58	9:22	15:13	21:38				F	12	3:35	9:54	15:40	22:07				S	12	3:28	10:00	15:47	22:15					
			16.5	1.9	17.4	1.5						17.8	1.4	18.0	1.3					17.7	1.7	17.7	1.7						
S D	W	13	3:30	9:55	15:43	22:10				S	13	3:55	10:25	16:11	22:37				M	13	4:05	10:37	16:24	22:50					
			17.4	1.1	18.0	0.9						18.3	1.1	18.2	1.3					18.3	1.3	18.0	1.1						
	Th	14	3:58	10:26	16:14	22:40				S	14	4:27	10:57	16:43	23:08				Tu	14	4:42	11:15	17:00	23:30					
			18.1	0.7	18.5	0.2						18.5	1.2	18.2	1.7					18.4	1.3	17.9	1.9						
	F	15	4:27	10:55	16:42	23:07				M	15	4:55	11:27	17:12	23:40				W	15	5:18	11:52	17:40						
			18.4	0.8	18.5	1.0						18.3	1.6	17.9	2.2					18.2	1.5	17.5							
	S	16	4:54	11:22	17:08	23:32				Tu	16	5:28	12:00	17:48				Th	16	0:08	6:00	12:33	23:23						
			18.4	1.1	18.3	1.6						17.8	2.1	17.8					2.4	17.7	1.9	16.9							
	S	17	5:20	11:47	17:34	23:59				W	17	0:12	6:05	12:36	18:28				F	17	0:48	6:46	13:17	19:17					
			18.1	1.7	17.9	2.3						3.0	17.1	2.8	16.4					3.0	17.0	2.5	16.1						
	M	18	5:47	12:14	18:04					Th	18	0:50	6:47	13:19	19:17				S	18	1:33	7:38	14:07	20:13					
			17.6	2.4	17.2							3.8	16.1	3.6	15.3					3.7	16.1	3.1	15.3						
E P	Tu	19	0:27	6:20	12:45	18:40				F	19	1:35	7:40	14:12	20:22				S	19	2:27	8:38	15:04	21:22					
			3.0	16.8	3.2	16.3						4.6	15.0	4.4	14.3					4:06	15.4	3.8	14.7						
	W	20	1:00	6:58	13:22	19:24			D	S	20	2:33	8:50	15:18	21:45				M	20	3:28	9:49	16:10	22:35					
			3.8	15.8	4.1	15.2						5.5	14.1	5.0	13.7					4.8	15.0	4.1	14.8						
	Th	21	1:42	7:45	14:10	20:25				S	21	3:50	10:18	16:39	23:11				Tu	21	4:40	11:02	17:21	23:44					
			4.8	15.4	4.9	13.9						5.9	14.0	5.1	14.1					5.0	15.3	4.1	15.1						
	F	22	2:38	8:55	15:25	21:58				M	22	5:18	11:37	17:57				W	22	5:58	12:10	18:30							
			5.8	13.4	5.8	13.1						5.6	14.9	4.4					4.5	15.9	3.7								
	S	23	4:05	10:38	17:02	23:36				E	Tu	23	0:18	6:34	12:42	19:03			P	Th	23	0:42	7:02	13:08	19:54				
			6.6	13.3	5.8	13.6						15.2	4.5	16.2	3.1					15.9	3.6	16.6							
	S	24	5:48	12:07	18:30					W	24	1:12	7:33	13:34	20:00				F	24	1:36	8:02	14:02	20:30					
			6.1	14.5	4.8							16.5	2.9	17.6	1.7					16.9	2.4	16.9	1.9						
E P	M	25	0:45	7:07	13:08	19:35			P	Th	25	2:00	8:24	14:22	20:50				S	25	2:26	8:55	14:52	21:20					
			15.0	4.5	16.1	3.0						17.9	1.2	18.8	0.5					17.9	1.2	18.2	1.0						
	Tu	26	1:40	8:03	14:00	20:28				F	26	2:45	9:12	15:08	21:35				S	26	3:14	9:45	15:39	22:17					
			16.7	2.5	18.0	1.1						19.1	0.0	19.7	-0.4					18.6	0.4	18.6	0.5						
	W	27	2:26	8:50	14:46	21:14				S	27	3:28	9:57	16:02	22:20				M	27	3:59	10:32	16:25	22:50					
			18.4	0.5	19.6	-0.5						19.9	-0.9	20.2	-0.7					19.1	-0.1	18.7	0.4						
	Th	28	3:10	9:35	15:30	21:58				S	28	4:12	10:41	16:37	23:01				Tu	28	4:43	11:15	17:09	23:32					
			19.9	-0.9	20.7	-1.5						20.3	-1.1	19.9	-0.4					19.2	-0.1	18.3	0.7						
	F	29	3:50	10:16	16:12	22:37				N	M	29	4:53	12:25	17:17	23:43				W	29	5:24	11:57	17:48					
			20.9	-1.8	21.4	-1.8							20.0	-0.7	19.2	0.3					18.9	0.4	17.6						
	S	30	4:31	10:58	16:53	23:18				Tu	30	5:35	12:08	18:01					Th	30	0:13	6:07	12:36	18:32					
			21.1	-1.9	21.2	-1.3							19.3	0.1	18.1						1.4	18.2	1.2	16.8					
S	31	5:12	11:38	17:34																0:54	6:51	13:20	19:17						
		20.7	-1.4	20.3																2.3	17.3	2.2	15.9						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day, a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 9.7 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3 47 p. m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.				FEBRUARY.				MARCH.			
Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.
	W.	Mo.			W.	Mo.			W.	Mo.	
O N	F	1	4:59 11:55 18:07 17.8 4.4 17.4	N	M	1	1:15 7:38 13:50 20:13 4.9 17.4 4.3 17.5	N	M	1	4:15 12:10 18:56 16.0 5.8 15.7
	S	2	0:29 6:55 13:09 19:22 3.9 18.2 3.9 18.1		Tu	2	2:20 8:36 14:50 21:05 4.1 18.3 3.0 18.6		Tu	2	0:54 7:28 13:28 19:56 6.0 16.2 5.2 16.7
	S	3	1:39 7:52 14:11 20:23 3.4 19.1 3.0 19.1		W	3	3:16 9:25 15:40 21:54 3.0 19.3 1.7 19.6		W	3	1:58 8:21 14:30 20:52 5.1 17.4 3.8 17.9
	M	4	2:37 8:44 15:07 21:10 2.5 20.0 1.8 20.0		Th	4	4:05 10:08 16:22 22:32 1.9 20.1 0.7 20.3		Th	4	3:00 9:12 15:25 21:38 3.6 18.5 2.4 19.2
	Tu	5	3:30 9:28 15:55 21:53 1.6 20.7 0.9 20.6		F	5	4:46 10:40 17:06 23:02 1.1 20.6 0.3 20.6		F	5	3:45 9:56 16:06 22:18 2.2 19.6 1.2 20.1
	W	6	4:17 10:07 16:41 22:32 1.0 21.1 0.2 20.9		S	6	5:26 11:00 17:44 23:14 1.0 20.8 0.3 20.7		S	6	4:26 10:30 16:46 22:45 1.5 20.4 0.5 20.7
	Th	7	5:02 10:36 17:20 23:00 0.9 21.2 0.1 20.8		S	7	6:00 11:04 18:15 23:20 1.4 20.9 0.6 20.8		S	7	5:05 10:45 17:23 22:50 0.9 20.9 0.0 21.0
	F	8	5:41 10:54 18:00 23:15 1.1 21.0 0.5 20.5		M	8	6:28 11:22 18:38 23:41 1.9 21.0 1.2 21.0		M	8	5:38 10:48 17:50 23:00 1.0 21.3 0.3 21.3
	S	9	6:18 11:15 18:35 23:36 1.8 20.7 1.1 20.3		Tu	9	6:48 11:50 18:58 2.3 21.1 1.7		Tu	9	6:00 11:00 18:10 23:16 1.3 21.7 0.7 21.7
	S	10	6:50 11:40 19:04 2.5 20.5 1.9		W	10	0:10 7:10 12:22 19:24 21.0 2.7 21.2 2.1		W	10	6:16 11:25 18:30 23:42 1.5 22.0 1.1 22.0
A E C	M	11	0:02 7:18 12:11 19:31 20.0 3.3 20.1 2.6	C	Th	11	0:45 7:35 13:00 19:51 20.9 3.0 20.8 2.7	C	Th	11	6:36 11:55 18:50 1.7 22.1 1.5
	Tu	12	0:35 7:43 12:48 20:00 19.7 4.0 19.7 3.3		F	12	1:22 8:08 13:40 20:27 20.5 3.4 20.1 3.4		F	12	0:14 7:00 12:32 19:20 22.0 2.0 21.8 2.1
	W	13	1:14 8:16 13:28 20:33 19.2 4.4 19.1 3.8		S	13	2:06 8:48 14:28 21:12 19.8 4.0 19.2 4.1		S	13	0:50 7:38 13:10 19:52 21.5 2.6 21.0 3.0
	Th	14	1:56 8:52 14:15 21:13 18.8 4.7 18.5 4.3		S	14	2:55 9:40 15:24 22:08 18.8 4.7 18.0 5.0		S	14	1:30 8:14 13:50 20:35 20.6 3.4 19.9 4.0
	F	15	2:46 9:36 15:08 22:01 18.8 5.1 17.8 4.7		M	15	3:58 10:43 16:33 23:22 18.0 5.2 17.3 5.5		M	15	2:22 9:04 14:50 21:30 19.4 4.3 18.4 5.0
	S	16	3:44 10:31 16:11 23:01 17.8 5.3 17.3 5.0		Tu	16	5:14 12:25 18:00 17.7 5.0 17.5		Tu	16	3:18 10:08 15:56 22:46 18.1 5.1 17.2 5.8
	S	17	4:50 11:44 17:24 17.7 5.2 17.4		W	17	1:25 6:46 14:14 19:44 5.0 18.5 3.8 18.7		W	17	4:35 11:45 17:28 17.3 5.3 17.1
	M	18	0:29 6:04 13:26 18:42 5.0 18.2 4.5 18.2		Th	18	2:48 8:12 15:18 20:50 3.6 20.0 2.0 20.5		Th	18	1:05 6:16 13:50 19:35 5.4 17.9 4.0 18.5
	Tu	19	2:01 7:18 14:36 19:56 4.2 19.3 3.2 19.4		F	19	3:45 9:12 16:08 21:42 1.7 21.7 -0.1 22.2		F	19	2:28 8:06 14:55 20:44 3.8 19.7 1.9 20.7
	W	20	3:05 8:22 15:34 20:55 3.1 20.7 1.7 20.8		S	20	4:30 9:55 16:52 22:25 0.0 22.2 -1.5 23.5		S	20	3:24 9:04 15:46 21:32 1.4 21.8 -0.4 22.7
P E D	Th	21	3:58 9:12 16:24 21:43 1.7 21.9 0.3 21.9	E	S	21	5:14 10:38 17:35 23:04 -1.2 24.2 -2.4 24.2	P	S	21	4:10 9:52 16:30 22:12 -0.6 23.6 -2.0 24.2
	F	22	4:45 9:58 17:08 22:27 0.6 22.8 -0.6 22.6		M	22	5:54 11:15 18:12 23:40 -1.7 24.4 -2.5 24.2		M	22	4:52 10:26 17:12 22:45 -2.0 24.7 -3.1 24.9
	S	23	5:26 10:39 17:48 23:07 0.1 23.3 -1.2 23.0		Tu	23	6:32 11:58 18:50 -1.5 24.2 -2.0		Tu	23	5:32 11:00 17:51 23:20 -2.7 25.0 -3.1 24.8
	S	24	6:06 11:20 18:28 23:46 -0.1 23.4 -1.1 23.0		W	24	0:14 7:08 12:30 19:30 23.8 -0.3 23.3 -0.9		W	24	6:10 11:35 18:30 23:52 -2.5 24.7 -2.4 24.3
	M	25	6:47 12:00 19:09 0.1 23.1 -0.7		Th	25	0:50 7:50 13:05 20:15 22.6 0.4 22.0 0.7		Th	25	6:48 12:10 19:07 -1.6 23.8 -1.1
	Tu	26	0:26 7:28 12:41 19:50 22.5 0.6 22.2 0.1		F	26	1:30 8:28 13:46 20:56 21.1 1.9 20.2 2.5		F	26	0:25 7:26 12:42 19:50 23.0 0.0 22.2 0.8
	W	27	1:08 8:12 13:24 20:36 21.5 1.5 21.0 1.4		S	27	2:10 9:21 14:30 21:56 19.4 3.5 18.2 4.3		S	27	1:00 8:12 13:20 20:35 21.3 1.7 20.2 2.8
	Th	28	1:53 9:00 14:12 21:26 20.4 2.5 19.6 2.6		S	28	3:00 10:35 15:30 23:24 17.4 5.1 16.3 5.8		S	28	1:38 8:57 14:00 21:30 19.2 3.6 18.1 4.7
	F	29	2:45 9:57 15:07 22:29 19.0 3.7 18.0 3.9						M	29	2:20 10:04 14:54 22:55 17.2 5.2 16.0 6.3
	S	30	3:46 11:12 16:45 23:52 17.7 4.7 16.7 4.8						Tu	30	3:24 11:42 18:40 15.4 6.1 15.3
	S	31	6:25 12:40 19:11 17.0 5.0 16.7						W	31	0:28 7:04 13:00 19:40 6.6 15.5 5.6 16.4

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The time used is Paris Mean Civil, for the meridian 2°20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar., E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.																																																																																																																																																																																																																			
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																														
	W.	Mo.										W.	Mo.										W.	Mo.																																																																																																																																																																																																															
A E O	Th	1	1:37 5.6	8:00 16.7	14:04 4.3	20:30 17.7	A	S	1	2:00 4.8	8:12 17.3	14:18 3.7	20:36 18.4	O S P N A D	Tu	1	2:45 3.6	8:20 18.8	15:04 3.0	20:36 19.0	O S P N A D	W	2	3:26 2.8	8:40 19.8	15:42 2.4	20:36 19.7	O S P N A D	Th	3	4:05 1.9	9:10 20.7	16:16 2.0	21:22 21.4	O S P N A D	F	4	4:34 1.4	9:42 21.2	16:50 1.8	21:56 21.9	O S P N A D	S	5	5:07 1.2	10:20 21.6	17:20 1.9	22:12 22.1	O S P N A D	Tu	6	5:40 1.3	10:55 21.6	17:56 2.2	22:10 22.9	O S P N A D	W	7	6:20 1.5	11:35 21.4	18:40 2.7	23:32 23.5	O S P N A D	Th	8	7:00 1.9	12:18 20.8	19:20 3.3	23:30 24.0	O S P N A D	F	9	7:46 2.0	7:46 2.5	13:06 20.0	20:16 3.8	O S P N A D	S	10	8:35 19.7	8:35 3.1	14:30 19.1	21:05 21.4	O S P N A D	Tu	11	9:15 18.8	9:40 3.6	15:04 18.4	22:14 21.4	O S P N A D	W	12	10:00 18.0	10:52 3.7	16:25 18.2	23:37 23.5	O S P N A D	Th	13	10:45 18.0	11:10 3.3	16:50 18.7	24:30 24.0	O S P N A D	F	14	11:30 3.5	11:30 4.5	17:20 18.8	25:30 24.0	O S P N A D	S	15	12:15 3.5	12:15 5.3	18:00 19.5	26:30 24.0	O S P N A D	Tu	16	13:00 1.3	12:45 21.0	18:40 0.8	27:30 24.0	O S P N A D	W	17	13:45 0.0	13:45 21.7	19:20 0.3	28:30 24.0	O S P N A D	Th	18	14:30 -0.5	14:30 22.0	20:00 0.0	29:30 24.0	O S P N A D	F	19	15:15 -0.5	15:15 21.8	20:50 0.3	30:30 24.0	O S P N A D	S	20	16:00 -0.2	16:00 21.2	21:20 1.1	31:30 24.0	O S P N A D	Tu	21	16:45 0.6	16:45 20.5	22:00 2.0	32:30 24.0	O S P N A D	W	22	17:30 1.5	17:30 19.7	22:50 3.1	33:30 24.0	O S P N A D	Th	23	18:15 19.4	18:15 2.6	23:40 18.8	34:30 24.0	O S P N A D	F	24	19:00 18.5	19:00 3.6	24:30 18.0	35:30 24.0	O S P N A D	S	25	19:45 17.7	19:45 4.4	25:20 17.4	36:30 24.0	O S P N A D	Tu	26	20:30 17.0	20:30 4.9	26:00 17.0	37:30 24.0	O S P N A D	W	27	21:15 16.5	21:15 5.1	26:50 16.8	38:30 24.0	O S P N A D	Th	28	22:00 16.5	22:00 5.1	27:40 17.2	39:30 24.0	O S P N A D	F	29	22:45 5.8	22:45 17.1	28:30 18.0	40:30 24.0	O S P N A D	S	30	23:30 5.9	23:30 16.2	29:20 17.2	41:30 24.0	O S P N A D	Tu	31	24:15 4.6	24:15 17.6	30:10 18.8	42:30 24.0	O S P N A D

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.															
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.										
	W.	Mo.										W.	Mo.										W.	Mo.											
u(C)	Th	1	2:44	7:58	15:06	20:20	3.4	19.1	3.4	20.2	○	S	1	4:02	9:16	16:24	21:34	1.4	21.0	1.6	22.0	P	W	1	5:11	10:35	17:30	22:49	−2.0	23.9	−1.3	24.3			
	F	2	3:34	8:43	15:53	21:00	2.4	20.1	2.6	21.0		M	2	4:48	10:03	17:08	22:18	0.2	22.0	0.8	22.8	E	Th	2	5:49	11:12	18:08	23:27	−2.2	24.2	−1.5	24.3			
	S	3	4:17	9:25	16:36	21:40	1.5	20.9	2.0	21.8		Tu	3	5:29	10:44	17:48	22:58	−0.5	22.6	0.2	23.2		F	3	6:27	11:49	18:46		−1.9	24.0	−0.9				
	S	4	4:58	10:15	17:16	22:20	0.9	21.4	1.6	22.1	P	W	4	6:08	11:25	18:27	23:38	−0.8	22.9	0.2	23.1		S	4	7:03	12:25	19:25		0.03	7.06	12.25	19.25			
	M	5	5:37	10:46	17:57	23:01	0.6	21.7	1.6	22.2		Th	5	6:47	12:05	19:06		−0.6	22.6	0.5			S	5	7:41	13:03	20:08		0.41	7.47	13.03	20.08			
P	Tu	6	6:12	11:28	18:37	23:44	0.6	21.7	1.8	22.0	E	F	6	7:22	12:46	19:47		0.19	7.28	12.46	19.47	☾	M	6	8:31	13:46	20:56		1.22	8.31	13.46	20.56			
	W	7	6:58	12:12	19:18		0.9	21.5	2.1			S	7	8:09	13:28	20:31		21.7	0.9	21.1	2.1		Tu	7	9:28	14:34	22:02		2.08	9.28	14.34	22.02			
	Th	8	7:42	12:57	20:04		0.28	21.4	1.2	20.9	2.6	☾	S	8	8:56	14:16	21:21		1.47	8:56	14:16	21:21		N	W	8	10:46	15:39	23:34		3.03	10.46	15.39	23.34	
	F	9	8:29	13:47	20:54		20.7	2.0	20.1	3.0		M	9	9:50	15:09	22:25		18.9	3.3	18.4	4.2		Th	9	11:49	16:34	24:34		16.9	5.3	16.4	5.5			
	S	10	9:21	14:42	21:51		19.6	2.6	19.2	3.6		Tu	10	10:44	16:23	23:51		17.4	4.5	17.3	4.8		F	10	12:29	17:32	19:56		6.31	12.29	17.32	19.56			
C	S	11	10:20	15:47	22:56		18.6	3.3	18.5	4.0		W	11	12:34	19:01		6.09	12:34	19:01		16.6	5.0	17.2		S	11	13:28	20:48		5.2	16.7	5.0	17.3		
	M	12	11:32	17:14		18.0	3.7	18.1			N	Th	12	13:49	20:05		1.14	7:40	13:49	20:05		4.6	7.42	4.5	18.0		S	12	14:34	21:33		3.8	18.1	3.7	18.5
	Tu	13	12:50	18:41	19:00		4.1	17.8	3.7	18.5		F	13	14:47	21:00		2.22	8:39	14:47	21:00		3.5	15.3	3.4	19.0		M	13	15:24	22:09		2.56	9:16	15.24	21.33
	W	14	14:03	20:04		3.5	18.5	3.3	19.4		S	14	15:40	21:46		8:17	9:28	15:40	21:46		3.1	19.4	2.2	20.0		●	Tu	14	16:27	23:34		2.4	19.3	2.3	19.7
	Th	15	15:01	20:58		2.47	19.4	2.4	20.2		S	15	16:27	22:24		4:06	10:12	16:27	22:24		0.8	20.3	1.1	20.8		W	15	17:19	24:40		3:44	9:58	16:09	22:09	
N	F	16	16:55	21:43		3:31	9:29	15:55	21:43	●	M	16	17:08	22:56		4:48	10:48	17:08	22:56		0.0	20.8	0.7	21.1		E	Th	16	18:46	23:50		0.9	20.4	1.2	20.6
	S	17	18:41	22:25		4:19	10:12	16:41	22:25		Tu	17	19:01	23:03		5:26	11:12	17:45	23:03		−0.1	20.9	1.0	21.1		●	F	17	19:56	24:56		4:26	10:28	16:47	22:34
	S	18	20:26	22:54		5:04	10:50	17:36	22:54		W	18	20:38	23:18		6:01	11:19	18:19	23:18		0.6	21.6	1.5	21.8		W	16	20:50	25:40		0.1	21.0	0.7	21.2	
	M	19	22:06	23:15		5:46	11:20	18:05	23:15		Th	19	21:11	23:41		6:32	11:34	18:44	23:41		0.1	20.9	1.3	21.1		E	S	18	21:48	26:30		5:02	10:48	17:19	22:40
	Tu	20	23:44	24:41		−0.1	20.8	1.1	21.0		A	F	20	22:05	24:11		6:55	11:59	19:05		0.8	20.9	1.9	21.1		Th	17	21:50	26:40		−0.1	21.2	0.6	21.4	
A	W	21	25:24	26:11		6:25	11:40	18:44	23:41		S	21	23:05	25:05		7:00	12:04	19:17		1.4	20.8	2.5			M	20	22:31	27:18		6:37	11:56	18:46			
	Th	22	27:04	27:32		1.0	20.3	2.5			F	22	24:11	26:11		7:41	12:44	20:17		0.11	20.9	2.1	20.6		W	21	23:04	28:04		1.8	21.7	2.3			
	F	23	28:44	29:06		0:10	7:31	12:32	19:46		S	23	25:05	27:05		8:17	13:16	20:33		20.9	2.1	20.6	8.0		Th	22	24:04	29:04		0:12	7.02	12.31	19.18		
	S	24	30:24	30:46		20.3	2.0	19.9	3.3		M	24	26:26	28:26		0:45	7:42	13:06	19:57		2.1	20.6	2.2	20.0		☾	Tu	23	25:04	30:04		2.5	7.52	12.51	20.18
	S	25	32:04	32:26		0:41	8:01	13:06	20:15		☾	Tu	25	27:46	29:46		0:45	7:42	13:06	19:57		20.6	2.8	20.3	3.5		W	22	25:54	30:54		2.1	7.52	12.51	20.18
D	M	26	33:44	34:06		0:41	8:01	13:06	20:15		W	26	29:28	31:28		1:23	8:15	13:47	20:33		19.0	4.3	18.8	4.8		S	Th	24	26:44	31:44		2.24	9:10	14:52	21:44
	Tu	27	35:24	35:46		19.8	2.7	19.3	4.0		Th	27	31:10	33:10		2:08	8:55	14:33	21:20		18.4	5.3	18.1	5.2		F	25	27:34	32:34		18.4	5.3	18.1	5.2	
	W	28	37:04	37:26		1:19	8:31	13:44	20:47		☾	W	28	32:52	34:52		2:58	9:46	15:30	22:18		17.1	6.0	17.2	5.5		S	26	28:44	33:44		3:28	10:18	16:04	23:08
	Th	29	38:44	39:06		19.3	3.5	18.9	4.5		S	29	34:30	36:30		3:58	10:34	16:18	23:06		17.1	6.0	17.2	5.5		S	27	29:34	34:34		4:51	12:18	17:38		
	F	30	40:24	40:46		2:01	9:05	14:28	21:24		Th	30	36:16	38:16		4:08	10:50	16:40	23:40		16.8	5.8	17.4			S	28	30:28	35:28		1:15	6:50	13:59	19:29	
S	S	31	42:04	42:26		2:48	9:46	15:19	22:11		☾	Th	31	38:00	40:00		4:28	11:19	17:14	24:14		15.8	5.8	17.4			M	29	31:20	36:20		4.5	17.9	4.8	19.1
	Tu	27	43:44	44:06		3:45	10:36	16:19	23:11		S	F	27	39:42	41:42		5:23	12:08	18:06		17.1	5.7	17.4	5.4		W	30	32:10	37:10		2:27	8:11	14:56	20:31	
	W	28	45:24	45:46		4:50	11:44	17:28			S	28	41:24	43:24		6:01	13:06	19:04		17.0	5.6	17.8			Th	31	33:00	38:00		2.5	20.1	2.1	21.2		
	Th	29	47:04	47:26		5:17	12:44	18:12			Th	29	43:06	45:06		6:45	14:06	20:04		4.5	18.0	4.4	19.2		☾	Tu	28	33:50	38:50		3:20	9:00	15:44	21.16	
	F	30	48:44	49:06		5:51	13:44	19:10			S	30	44:50	46:50		7:28	15:06	21:04		4.5	18.0	4.4	19.2		W	29	34:40	39:40		0.2	22.2	0.0	23.1		
	S	31	50:24	50:46		6:38	14:44	20:18		☾	Tu	31	46:38	48:38		8:14	16:08	22:06		2.51	8:23	15:18	20:41		Th	30	35:30	40:30		4:04	9:40	16:26	21:56		
			52:04	52:26		7:28	15:44	21:18												3.8	19.8	2.5	21.0						−1.5	23.9	−1.5	24.4			
			53:44	54:06		8:14	16:44	22:18												0.8	21.5	0.8	22.6						4:45	10:16	17:06	22:33			
			55:24	55:46		9:05	17:44	23:18												−0.8	22.8	−0.5	23.8						−2.6	24.9	−2.2	25.0			
			57:04	57:26		10:00	18:44	24:18																											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 11.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E. 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.									W.	Mo.									W.	Mo.							
N C	F	1	5:23	10:50	17:44	23:07				M	1	6:22	11:40	18:46					W	1	6:57	11:59	19:19						
			—2.8	25.0	—2.8	24.9						—0.8	23.1	—0.4							1.1	21.4	1.0						
	S	2	6:02	11:26	18:21	23:42				N	Tu	2	0:00	7:07	12:15	19:31			Th	2	0:25	7:42	12:36	20:06					
			—2.4	24.5	—1.6	24.1						22.2	0.9	21.6	1.3						20.3	2.6	19.9	2.4					
	S	3	6:42	12:02	19:02					W	3	0:39	7:55	12:54	20:22			F	3	1:04	8:32	13:17	21:00						
E A			—1.2	23.4	—0.4						20.4	2.7	19.7	8.0						18.9	4.1	18.3	3.8						
	M	4	0:19	7:23	12:37	19:45			C	Th	4	1:21	8:52	13:38	21:25		C	S	4	1:51	9:31	14:06	22:00						
			22.6	0.5	21.8	1.3					18.4	4.5	17.6	4.5						17.4	6.2	16.9	4.7						
	Tu	5	0:58	8:11	13:17	20:37						2:12	10:16	14:33	22:45		S	5	2:58	10:39	15:11	23:09							
			20.8	2.5	19.8	3.2					16.6	5.7	15.9	5.4						16.2	5.8	15.9	5.3						
D	W	6	1:40	9:09	14:02	21:44				S	6	5:50	11:30	18:14			M	6	6:03	11:46	18:21								
			18.6	4.3	17.7	4.7					15.7	6.2	15.4						16.1	6.0	15.7								
	Th	7	2:34	10:30	15:03	23:16				S	7	0:00	6:46	12:39	19:00		E	Tu	7	0:15	6:51	12:48	19:13						
			16.5	5.8	15.8	5.7					5.2	16.5	5.6	16.5					5.2	16.6	5.5	16.4							
	F	8	6:14	12:00	18:41					M	8	1:03	7:36	13:37	19:56			W	8	1:13	7:38	13:42	19:51						
P O			15.6	6.3	15.8						4.5	17.7	4.5	17.6					4.7	17.4	4.7	17.3							
	S	9	0:35	7:18	13:11	19:38			A	Tu	9	2:00	8:20	14:24	20:37			Th	9	2:06	8:14	14:32	20:25						
			5.3	16.8	5.3	17.1					3.5	18.5	3.4	18.5					4.0	18.3	3.8	18.2							
	S	10	1:41	8:08	14:12	20:27				W	10	2:45	8:57	15:07	21:09			F	10	2:52	8:40	15:16	20:51						
			4.1	18.0	4.0	18.3					2.5	19.5	2.4	19.5					3.3	19.2	2.9	19.2							
E A	M	11	2:33	8:53	15:00	21:09				Th	11	3:27	9:21	15:48	21:29			S	11	3:32	8:53	15:54	21:05						
			2.6	19.2	2.5	19.4					3.7	20.3	1.6	20.3					2.8	20.1	2.3	20.0							
	Tu	12	3:16	9:30	15:41	21:43				F	12	4:03	9:33	16:22	21:35		●	S	12	4:09	9:15	16:28	21:30						
			1.3	20.3	1.4	20.4					1.4	20.9	1.4	20.9					2.3	20.9	1.7	20.7							
	W	13	3:58	9:58	16:18	22:05			●	S	13	4:34	9:39	16:48	21:52			M	13	4:42	9:42	17:00	22:01						
D			0.6	20.9	0.9	21.0					1.3	21.4	1.3	21.3					2.2	21.5	1.4	21.2							
	Th	14	4:36	10:11	16:51	22:06				S	14	4:58	10:02	17:10	22:17		S	Tu	14	5:06	10:15	17:28	22:36						
			0.3	21.3	0.7	21.4					1.6	21.8	1.3	21.6					2.2	21.8	1.4	21.5							
	F	15	5:08	10:12	17:16	22:19				M	15	5:19	10:31	17:32	22:50			W	15	5:41	10:51	17:59	23:13						
			0.5	21.6	0.9	21.6					1.9	22.1	1.6	21.7					2.3	22.0	1.5	21.4							
P O	S	16	5:26	10:30	17:34	22:41				Tu	16	5:44	11:03	18:00	23:25			Th	16	6:15	11:30	18:36	23:54						
			1.0	21.9	1.3	21.9					2.3	22.0	1.9	21.5					2.6	21.8	1.8	21.1							
	S	17	5:44	10:56	17:54	23:11			S	W	17	6:14	11:41	18:34					6:52	12:12	19:16								
			1.5	22.1	1.6	22.0					2.9	21.6	2.4						3.1	21.3	2.3								
	M	18	6:05	11:26	18:15	23:45				Th	18	0:04	6:58	12:22	19:17			S	18	0:40	7:37	12:58	20:03						
E A			2.0	22.0	2.0	21.7					20.9	3.6	20.9	3.1					20.5	3.5	20.5	2.8							
	Tu	19	6:31	12:02	18:48				F	19	0:48	7:40	13:10	20:09					1:29	8:28	13:50	20:58							
			2.7	21.6	2.6						20.0	4.3	19.8	3.8			S	19	1:29	8:28	13:50	20:58							
	W	20	0:23	7:07	12:41	19:29			D	S	20	1:40	8:36	14:06	21:09		D	M	20	2:25	9:27	14:50	22:00						
			20.9	3.5	20.7	8.5					19.0	5.0	18.6	4.4					19.0	4.3	18.6	3.7							
P O	Th	21	1:03	7:51	13:28	20:19				S	21	2:43	9:44	15:13	22:28			Tu	21	3:33	10:41	16:02	23:19						
			19.8	4.5	19.6	4.3					18.0	5.4	17.7	4.5					18.4	4.5	18.0	3.7							
	F	22	1:58	8:47	14:23	21:23				M	22	4:02	11:21	16:40					5:00	12:17	17:39								
			18.6	5.4	18.2	5.0					17.5	5.1	17.6						18.4	4.1	18.2								
	S	23	3:01	9:59	15:34	22:49			E	Tu	23	0:03	5:51	12:50	18:30		P	Th	23	0:40	6:40	13:23	19:13						
E A			17.3	6.0	17.2	5.2					3.9	18.3	4.0	18.8					3.3	19.2	3.1	19.1							
	S	24	4:27	11:55	17:12					W	24	1:19	7:22	13:56	19:42			F	24	1:52	7:50	14:27	20:16						
			16.9	5.6	17.4						2.6	20.0	2.3	20.5					2.5	20.4	1.8	20.5							
	M	25	0:44	6:34	13:28	19:09			P	Th	25	2:20	8:12	14:50	20:31			S	25	2:52	8:41	15:22	21:07						
			4.3	18.1	4.1	19.0					1.1	21.8	0.5	22.1					1.4	21.6	0.5	21.6							
P O	Tu	26	1:56	7:53	14:27	20:12				F	26	3:11	8:54	15:38	21:17		○	S	26	3:46	9:28	16:12	21:52						
			2.4	20.3	1.8	21.2					—0.2	23.1	—0.8	23.2					0.3	22.1	—0.5	22.2							
	W	27	2:50	8:39	15:16	20:56			○	S	27	4:00	9:34	16:24	21:54		N	M	27	4:34	10:08	16:58	22:34						
			0.3	22.4	—0.1	23.0					—1.3	24.0	—1.6	23.8					—0.3	22.8	—1.1	22.4							
	Th	28	3:37	9:18	16:01	21:34				S	28	4:45	10:12	17:08	22:35			Tu	28	5:18	10:46	17:42	23:10						
E A			—1.3	24.0	—1.7	24.3					—1.5	24.1	—1.8	23.6					—0.4	22.7	—1.0	22.1							
	F	29	4:20	9:54	16:42	22:12			N	M	29	5:28	10:48	17:51	23:10			W	29	6:02	11:18	18:25	23:45						
			—2.3	24.9	—2.4	24.9					—1.1	23.6	—1.4	22.9					0.0	22.1	—0.4	21.5							
	S	30	5:02	10:30	17:23	22:49				Tu	30	6:12	11:24	18:35	23:48			Th	30	6:45	11:51	19:06							
			2.6	25.0	—2.3	24.5					0.0	22.6	—0.3	21.8					0.9	21.4	0.4								
P O	S	31	5:42	11:05	18:04	23:23													0.14	7:26	12:23	19:47							
			—1.9	24.4	—1.7	23.8													20.6	2.0	20.4	1.5							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the French Charts for this region, and which is 11.3 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Paris Mean Civil, for the meridian 2° 20' E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.							FEBRUARY.							MARCH.						
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.					Moon.	Day of— W. Mo.	Time and Height of High and Low Water.					Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				
N C A E C	F 1	3:27 2.6	10:18 12.7	15:55 4.0	22:30 13.5	M N O A E C	M 1	5:28 3.7	11:55 13.0	17:47 3.2	N C A E C	N M 1	3:42 4.9	10:20 12.5	16:06 4.3	23:08 12.6				
	S 2	4:40 2.6	11:20 13.2	17:04 3.4	23:36 14.2		Tu 2	0:24 13.7	6:32 3.4	12:46 13.7		18:45 2.3	Tu 2	5:18 4.8	11:32 12.4	17:32 3.4				
	S 3	5:44 2.4	12:15 13.8	18:04 2.6			W 3	1:20 14.2	7:23 3.0	13:32 14.4		19:32 1.5	W 3	0:18 13.1	6:25 4.1	12:28 13.3	18:32 2.6			
	M 4	0:34 14.7	6:38 2.1	13:00 14.4	18:54 1.7		Th 4	2:06 14.6	8:02 2.6	14:12 14.9		20:12 0.9	Th 4	1:11 13.7	7:10 3.5	13:14 14.3	19:18 1.7			
	Tu 5	1:24 15.1	7:26 1.9	13:44 14.9	19:38 1.0		F 5	2:46 14.7	8:33 2.5	14:47 15.1		20:47 0.6	F 5	1:54 14.3	7:48 2.8	13:58 15.0	19:57 1.0			
	W 6	2:12 15.2	8:07 1.9	14:24 15.0	20:17 0.6		S 6	3:21 14.7	9:00 2.4	15:18 15.1		21:18 0.5	S 6	2:29 14.6	8:18 2.3	14:28 15.3	20:29 0.6			
	Th 7	2:54 15.2	8:40 2.1	14:55 14.9	20:55 0.5		S 7	3:50 14.4	9:23 2.3	15:44 14.9		21:48 0.5	S 7	3:00 14.7	8:40 2.1	14:28 15.4	20:57 0.4			
	F 8	3:32 14.8	9:12 2.3	15:30 14.7	21:32 0.5		M 8	4:15 14.0	9:45 2.1	16:08 14.6		22:17 0.6	M 8	3:24 14.6	8:58 1.8	15:22 15.2	21:20 0.3			
	S 9	4:10 14.2	9:36 2.6	16:00 14.3	22:08 0.8		Tu 9	4:35 13.7	10:14 2.0	16:35 14.5		22:47 0.8	Tu 9	3:48 14.5	9:19 1.4	15:44 15.2	21:46 0.3			
	S 10	4:40 13.6	10:06 2.8	16:32 13.9	22:44 1.1		W 10	4:58 13.5	10:45 2.1	17:07 14.1		23:20 1.2	W 10	4:00 14.4	9:47 1.1	16:08 15.1	22:13 0.4			
A	M 11	5:10 13.0	10:40 3.1	17:02 13.5	23:20 1.5	Th 11	5:27 13.3	11:22 2.2	17:42 13.7	23:58 1.8	Th 11	4:23 14.3	10:18 1.0	16:38 14.9	22:46 0.7					
E	Tu 12	5:40 12.5	11:14 3.3	17:38 13.1	23:58 2.1	F 12	6:04 12.9	12:03 2.6	18:25 13.2		F 12	4:52 14.1	10:53 1.2	17:13 14.5	23:22 1.3					
C	W 13	6:16 12.1	11:54 3.6	18:20 12.6		S 13	0:42 2.5	6:50 12.3	12:53 3.2	19:20 12.5	S 13	5:27 14.4	11:35 1.7	17:55 14.2						
	Th 14	0:40 2.6	7:00 11.7	12:40 3.9	19:08 12.1	S 14	1:33 3.3	7:48 11.7	13:57 3.7	20:33 11.8	S 14	0:08 2.2	6:10 12.9	12:34 2.4	18:47 12.9					
	F 15	1:30 3.1	7:54 11.4	13:38 4.2	20:12 11.7	M 15	2:38 4.0	9:13 11.3	15:13 3.8	22:13 11.8	C	M 15	0:55 3.2	7:06 12.0	13:26 3.2	20:00 11.9				
	S 16	2:25 3.6	9:07 11.2	14:44 4.8	21:30 11.7	Tu 16	3:58 4.2	10:51 11.6	16:40 3.4	23:39 12.6	S	Tu 16	2:00 4.2	8:26 11.2	14:43 3.6	21:52 12.4				
	S 17	3:32 3.7	10:28 11.5	16:00 4.0	22:54 12.2	S	W 17	5:25 3.7	12:03 12.9	17:54 2.2		W 17	3:27 4.7	10:20 11.3	16:18 3.4	23:27 12.5				
	M 18	4:40 3.5	11:32 12.3	17:12 3.1	23:58 13.1	Th 18	0:42 13.9	6:30 2.7	12:57 14.2	18:53 0.7	Th 18	5:10 4.2	11:43 12.8	17:38 2.1						
	Tu 19	5:46 2.9	12:24 13.8	18:14 2.0		F 19	1:32 15.1	7:22 1.6	13:42 15.5	19:42 -0.6	F 19	0:28 13.9	6:18 3.0	12:38 14.5	18:38 0.6					
S	W 20	0:53 14.1	6:42 2.1	13:10 14.3	19:06 0.8	P	S 20	2:17 16.1	8:06 0.6	14:25 16.6	20:28 -1.7	S	20	1:18 15.2	7:07 1.6	13:24 15.9	19:26 -0.9			
	Th 21	1:42 15.1	7:28 1.3	13:56 15.2	19:54 -0.3	S	21	2:50 16.7	8:45 0.0	15:04 17.1	21:12 -2.2	P	S 21	2:00 16.3	7:48 0.4	14:07 17.0	20:10 -1.9			
●	F 22	2:28 15.8	8:15 0.7	14:35 15.9	20:38 -1.2	M	22	3:40 16.8	9:25 -0.3	15:45 17.4	21:53 -2.2	E	M 22	2:39 17.0	8:27 -0.4	14:46 17.7	20:52 -2.3			
P	S 23	3:10 16.2	8:58 0.4	15:17 16.3	21:25 -1.6	E	Tu 23	4:18 16.6	10:05 -0.3	16:25 17.1	22:36 -1.8		Tu 23	3:17 17.1	9:04 -0.8	15:26 17.8	21:32 -2.2			
	S 24	3:55 16.2	9:40 0.4	16:00 16.4	22:10 -1.7	W	24	4:59 15.9	10:43 0.1	17:09 16.5	23:20 -0.7	W	24	3:54 16.8	9:42 -0.9	16:07 17.5	22:12 -1.6			
	M 25	4:40 15.9	10:22 0.6	16:44 16.2	22:57 -1.2	Th	25	5:40 14.9	11:27 0.9	17:56 15.4		Th	25	4:32 16.1	10:20 -0.5	16:48 16.7	22:52 -0.4			
E	Tu 26	5:25 15.2	11:05 1.1	17:30 15.6	23:45 -0.4	F	26	0:05 0.6	6:27 13.6	12:12 1.9	18:52 14.1	F	26	5:10 15.1	11:01 0.3	17:36 15.5	23:35 1.1			
	W 27	6:14 14.3	11:52 1.8	18:20 14.7		●	S 27	0:56 2.3	7:35 12.4	13:07 3.0	20:05 12.9		S 27	5:52 13.7	11:47 1.4	18:29 14.0				
D	Th 28	0:36 0.7	7:10 13.3	12:44 2.7	19:20 13.7	S	28	2:01 3.9	8:48 12.6	14:21 4.1	21:41 12.3	N	S 28	0:22 2.8	6:44 12.4	12:40 2.7	19:43 12.5			
	F 29	1:35 2.0	8:18 12.4	13:45 3.5	20:35 13.0								M 29	1:18 4.5	8:02 11.2	13:52 3.9	21:22 11.8			
	S 30	2:45 3.2	9:35 12.0	15:04 4.1	22:04 12.8								Tu 30	3:08 5.7	9:47 11.3	15:42 4.3	22:58 12.0			
	S 31	4:10 3.8	10:52 12.2	16:34 4.0	23:20 13.2								W 31	5:00 5.5	11:03 12.1	17:12 3.7	23:59 12.0			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☿, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	6:06 4.6	12:02 13.0	18:08 2.9							E	S	1	0:15 12.9	6:10 4.2	12:13 13.6	18:17 2.4	O	Tu	1	0:40 13.3	6:22 8.2	12:46 13.8	18:37 2.1							
	F	2	0:48 13.4	6:50 3.7	12:48 14.0	18:58 2.0							S	2	0:52 13.5	6:44 3.5	12:58 14.2	18:52 1.3		W	2	1:10 13.7	6:52 2.3	13:20 14.2	19:10 1.5							
	S	3	1:28 14.0	7:26 8.0	13:28 14.7	19:30 1.3							M	3	1:24 14.0	7:10 2.8	13:27 14.6	19:20 1.4		Th	3	1:40 14.2	7:28 1.4	13:55 14.7	19:43 1.1							
	S	4	2:01 14.5	7:50 2.5	14:02 15.1	19:58 0.9							Tu	4	1:52 14.3	7:32 2.1	13:56 14.8	19:47 1.0		F	4	2:09 14.6	8:01 0.7	14:30 15.1	20:14 0.9							
	M	5	2:28 14.7	8:10 2.0	14:28 15.2	20:23 0.6							W	5	2:13 14.6	7:55 1.3	14:21 15.0	20:12 0.6		S	5	2:40 14.9	8:40 0.2	15:08 15.2	21:37 1.0							
	Tu	6	2:49 14.7	8:28 1.5	14:52 15.2	20:47 0.3							Th	6	2:37 14.8	8:24 0.7	14:50 15.3	20:42 0.4		S	6	3:15 14.9	9:22 0.0	15:47 15.0	21:38 1.2							
	W	7	3:08 14.8	8:50 1.0	15:15 15.3	21:12 0.2							F	7	3:01 15.0	8:58 0.8	15:22 15.3	21:17 0.6		M	7	3:54 14.7	10:07 0.0	16:34 14.6	22:22 1.8							
	Th	8	3:28 14.8	9:20 0.6	15:43 15.4	21:42 0.3							S	8	3:31 14.9	9:34 0.2	15:57 15.2	21:53 0.9		Tu	8	4:36 14.6	10:55 0.4	17:24 14.0	23:10 2.5							
	F	9	3:54 14.8	9:58 0.5	16:18 15.2	22:16 0.6							S	9	4:06 14.6	10:16 0.4	16:38 14.6	22:38 1.6		W	9	5:25 13.6	11:50 0.9	18:25 13.3	23:19 ...							
	S	10	4:25 14.5	10:30 0.7	16:52 14.7	22:54 1.3							M	10	4:45 14.0	11:02 0.9	17:27 13.8	23:20 2.5		Th	10	6:04 1.3	6:23 13.0	12:50 1.4	19:37 12.7							
S	S	11	5:02 13.9	11:14 1.3	17:35 13.9	23:38 2.3							Tu	11	5:32 13.2	11:56 1.6	18:27 12.9	...	E	F	11	1:07 3.9	7:34 12.6	14:00 1.9	20:50 12.6							
	M	12	5:46 13.0	12:06 2.0	18:30 12.9	...							W	12	0:13 3.5	6:28 12.3	13:00 12.1	19:49 12.1		S	12	2:22 4.2	8:56 12.7	16:12 2.1	22:10 12.9							
	Tu	13	0:30 3.4	6:41 12.1	13:08 2.8	19:48 11.9							Th	13	1:28 4.4	7:48 11.7	14:17 2.7	21:28 12.2		S	13	3:42 4.0	10:13 13.4	16:22 1.8	23:12 13.5							
	W	14	1:38 4.5	7:58 11.2	14:26 3.3	21:44 11.7							F	14	2:50 4.8	9:30 12.1	15:00 2.5	22:45 13.0		M	14	4:52 3.3	11:18 14.2	17:25 1.4	...							
	Th	15	3:10 5.0	9:57 11.5	16:00 3.0	23:10 12.8							S	15	4:28 4.2	10:48 13.3	16:58 1.6	23:42 14.0		Tu	15	0:08 14.2	5:50 2.4	12:15 15.0	18:20 1.0							
	F	16	4:53 4.3	11:20 13.0	17:18 2.8	...							S	16	5:27 8.1	11:47 14.6	17:51 0.7	...		W	16	0:50 14.8	6:37 1.5	13:07 15.6	19:06 0.8							
	S	17	0:08 14.0	5:59 8.0	12:15 14.6	18:16 0.5							M	17	0:30 14.9	6:17 2.0	12:37 15.7	18:42 -0.1		Th	17	1:38 15.1	7:23 0.8	13:54 15.9	19:52 0.8							
	S	18	0:55 15.3	6:45 1.7	13:02 16.0	19:05 -0.8							Tu	18	1:13 15.6	7:00 0.9	13:22 16.4	19:25 -0.5		F	18	2:15 15.3	8:07 0.3	14:40 15.9	20:33 1.1							
	M	19	1:38 16.2	7:27 0.5	13:45 17.0	19:48 -1.5							W	19	1:54 15.0	7:40 0.1	14:06 16.8	20:07 -0.7		S	19	2:53 15.2	8:48 0.1	15:25 15.5	21:10 1.6							
	Tu	20	2:17 16.7	8:03 -0.3	14:26 17.5	20:28 -1.8							Th	20	2:32 16.1	8:20 -0.3	14:47 16.8	20:47 -0.2		S	20	3:30 14.8	9:30 0.2	16:10 14.9	21:6 2.2							
N	W	21	2:54 16.8	8:40 -0.8	15:06 17.5	21:08 -1.5							F	21	3:08 15.8	9:00 -0.4	15:35 16.4	21:27 0.5	M	21	4:07 14.3	10:12 0.6	16:53 14.1	22:23 2.8								
	Th	22	3:30 16.5	9:18 -0.8	15:47 17.2	21:47 -0.7							S	22	3:40 15.3	9:42 -0.1	16:17 15.5	22:08 1.5	Tu	22	4:45 13.7	10:57 1.1	17:38 13.2	23:01 3.5								
	F	23	4:06 15.8	9:58 -0.4	16:32 16.3	22:26 0.5							S	23	4:28 14.4	10:26 0.5	17:06 14.4	22:43 2.6	W	23	5:25 13.0	11:42 1.8	18:27 12.4	23:42 4.1								
	S	24	4:48 14.8	10:40 0.3	17:17 15.1	23:08 1.8							M	24	5:02 13.5	11:12 1.8	17:58 13.2	23:25 8.7	Th	24	6:10 12.5	12:30 2.5	19:22 11.7	...								
	S	25	5:26 13.6	11:26 1.3	18:12 13.6	23:52 3.4							Tu	25	5:46 12.5	12:06 2.3	19:08 12.2	...	E	F	25	0:28 4.6	7:05 11.9	13:20 8.1	20:23 20.3							
	M	26	6:13 12.4	12:20 2.5	19:25 12.3	...							W	26	0:15 4.7	6:48 11.7	13:06 3.2	20:20 11.6		S	26	1:20 5.0	8:08 11.5	14:17 8.6	21:24 11.2							
	Tu	27	0:45 4.8	7:22 11.1	13:30 8.7	20:57 11.6							Th	27	1:15 5.5	8:08 11.3	14:18 8.8	21:35 11.5		S	27	2:20 5.1	9:15 11.5	15:16 8.8	22:20 11.4							
	W	28	2:20 6.0	9:07 11.2	15:04 4.2	22:08 11.7							F	28	2:54 5.9	9:32 11.7	15:33 8.9	22:38 11.7		M	28	3:27 4.9	10:22 11.9	16:12 8.7	23:10 11.9							
	Th	29	4:20 5.8	10:25 12.0	16:32 8.8	23:28 12.2							S	29	4:16 5.5	10:35 11.7	16:36 8.6	23:27 12.2		Tu	29	4:30 4.3	11:17 12.4	17:05 8.3	23:53 12.5							
	F	30	5:25 6.1	11:25 12.8	17:30 8.1	...							S	30	5:08 4.8	11:27 12.8	17:24 8.1	...		W	30	5:27 3.5	12:05 13.0	17:53 2.8	...							
M	31	0:07 12.8	5:48 4.0	12:10 12.3	18:08 2.6																											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.							W.		Mo.							W.	Mo.													
☾	Th	1	0:38	6:20	12:54	18:43	18.2	2.5	13.8	2.2	○	S	1	1:38	7:34	14:09	19:56	14.6	0.4	15.3	1.3	P	W	1	2:42	8:48	15:17	21:02	16.8	—2.0	16.8	—0.2
	F	2	1:14	7:08	13:36	19:24	13.9	1.5	14.5	1.6		M	2	2:19	8:20	14:53	20:38	15.4	—0.6	15.8	0.8	E	Th	2	3:22	9:28	15:56	21:42	17.2	—2.2	16.7	—0.3
	S	3	1:52	7:45	14:20	20:04	14.5	0.6	15.0	1.3		Tu	3	2:59	9:04	15:36	21:18	15.9	—1.2	16.0	0.6		F	3	4:02	10:12	16:35	22:20	17.1	—1.9	16.1	—0.1
	S	4	2:28	8:30	15:02	20:46	14.9	0.0	15.3	1.1	P	W	4	3:38	9:48	16:18	22:00	16.2	—1.5	15.9	0.6		S	4	4:44	10:56	17:16	23:02	16.6	—1.0	15.2	0.5
	M	5	3:08	9:18	15:45	21:30	15.1	—0.5	15.3	1.2		Th	5	4:22	10:30	17:00	22:43	16.1	—1.3	15.5	0.9		S	5	5:28	11:40	18:02	23:48	15.7	0.2	14.1	1.5
☾	Tu	6	3:49	10:00	16:33	22:15	16.1	—0.6	15.1	1.5	E	F	6	5:06	11:20	17:48	23:28	15.8	—0.8	14.7	1.5	☾	M	6	6:25	12:32	18:57	...	15.5	1.8	12.8	...
	W	7	4:38	10:50	17:20	23:00	16.0	—0.4	14.6	1.9		S	7	5:55	12:10	18:38	...	15.1	0.2	13.8	...		Tu	7	0:42	7:34	13:34	20:14	2.6	13.3	3.4	12.2
	Th	8	5:19	11:40	18:16	23:50	14.6	0.0	14.0	2.5	☾	S	8	0:16	6:50	13:05	19:40	2.2	14.2	1.4	12.9	N	W	8	1:54	9:05	15:07	21:47	3.6	12.5	4.6	11.6
	F	9	6:15	12:35	19:17	...	14.1	0.7	13.3	...		M	9	1:13	7:57	14:08	20:55	3.0	13.3	2.6	12.2		Th	9	3:38	10:34	16:33	23:02	4.0	12.6	4.7	12.4
	S	10	0:45	7:15	13:36	20:23	3.1	13.5	1.5	13.2		Tu	10	2:28	9:20	15:28	22:12	3.7	12.9	3.5	12.2		F	10	5:00	11:48	17:58	...	3.5	13.2	4.1	...
☾	S	11	1:50	8:27	14:43	21:35	3.6	13.2	2.1	12.7		W	11	3:52	10:43	16:52	23:23	3.8	13.2	3.7	12.8		S	11	0:02	6:06	12:44	18:48	13.0	13.4	2.5	13.9
	M	12	3:03	9:45	15:57	22:42	3.8	13.3	2.5	12.9	N	Th	12	5:12	11:53	18:00	...	5:12	11:53	18:00	...		S	12	0:51	6:55	13:30	19:28	14.3	1.5	14.6	2.7
	Tu	13	4:19	10:48	17:05	23:40	3.6	13.8	2.5	13.4		F	13	0:18	6:16	12:52	18:57	0:18	6:16	12:52	18:57		M	13	1:38	7:36	14:10	20:02	13.6	1.5	14.0	2.2
	W	14	5:27	12:01	18:07	...	2.9	14.4	2.3	...	●	S	14	1:08	7:08	13:42	19:42	1:08	7:08	13:42	19:42	●	Tu	14	2:10	8:13	14:43	20:28	15.6	0.3	15.1	2.0
	Th	15	0:32	6:24	12:57	19:00	14.1	2.1	14.9	2.1	●	S	15	1:50	7:53	14:27	20:19	1:50	7:53	14:27	20:19		W	15	2:44	8:48	15:10	20:48	15.8	0.2	14.9	1.7
☾	F	16	1:20	7:15	13:50	19:47	14.6	1.3	15.2	2.0		M	16	2:31	8:33	15:05	20:50	2:31	8:33	15:05	20:50	E	Th	16	3:10	9:10	15:33	21:08	15.4	0.3	14.6	1.5
	S	17	2:05	8:00	14:35	20:27	15.0	0.7	15.3	2.0		Tu	17	3:06	9:07	15:40	21:16	3:06	9:07	15:40	21:16		F	17	3:34	9:32	15:53	21:33	15.1	0.5	14.3	1.3
	S	18	2:44	8:43	15:19	21:03	15.2	0.3	15.1	2.1		W	18	3:37	9:38	16:08	21:39	3:37	9:38	16:08	21:39		S	18	3:57	9:58	16:10	22:01	14.9	0.6	14.1	1.3
	M	19	3:22	9:25	15:58	21:36	15.1	0.3	15.3	2.4	A	Th	19	4:04	10:08	16:33	22:03	4:04	10:08	16:33	22:03		S	19	4:25	10:28	16:35	22:35	14.7	1.0	13.8	1.5
	Tu	20	3:57	10:02	16:37	22:16	15.2	0.5	14.1	2.7		F	20	4:30	10:36	16:53	22:33	4:30	10:36	16:53	22:33		M	20	4:56	11:02	17:06	23:15	14.2	1.6	13.5	1.9
☾	W	21	4:30	10:38	17:12	22:35	14.3	0.9	13.5	3.0		S	21	4:57	11:06	17:17	23:07	4:57	11:06	17:17	23:07		Tu	21	5:34	11:42	17:45	...	14.5	2.4	12.8	...
	Th	22	5:02	11:14	17:44	23:08	13.7	1.4	12.8	3.3		S	22	5:30	11:42	17:48	23:46	5:30	11:42	17:48	23:46	☽	W	22	0:00	6:23	12:23	18:36	2.6	12.7	3.4	11.9
	F	23	5:37	11:50	18:18	23:46	13.3	1.9	12.3	3.5		M	23	6:10	12:22	18:30	...	6:10	12:22	18:30	...	S	Th	23	1:00	7:32	13:32	19:51	3.3	11.8	4.3	11.1
	S	24	6:13	12:30	18:53	...	12.7	2.5	11.8	...	☽	Tu	24	0:32	7:00	13:10	19:20	0:32	7:00	13:10	19:20		F	24	2:15	9:27	14:56	21:44	3.8	11.3	4.9	11.0
	S	25	0:27	6:57	13:14	19:40	3.8	12.2	3.1	11.4		W	25	1:32	8:07	14:12	20:42	1:32	8:07	14:12	20:42		S	25	3:50	11:02	16:44	23:19	3.6	12.2	4.5	12.4
☾	M	26	1:18	7:53	14:07	20:43	4.1	11.8	3.6	11.1		Th	26	2:45	9:50	15:31	22:25	2:45	9:50	15:31	22:25		S	26	5:12	12:03	17:53	...	2.5	13.6	3.3	...
	Tu	27	2:18	9:08	15:07	22:02	4.3	11.5	4.0	11.2	S	F	27	4:13	11:13	16:59	23:42	4:13	11:13	16:59	23:42		M	27	0:14	16:12	12:53	18:43	3.8	12.2	4.1	12.4
	W	28	3:18	10:28	16:17	23:10	4.2	11.8	4.0	11.8		S	28	5:31	12:20	18:08	...	5:31	12:20	18:08	...		Tu	28	1:01	7:01	13:36	19:25	2.7	13.4	3.2	...
	Th	29	4:46	11:37	17:23	...	3.7	12.5	3.5	...		S	29	0:35	6:28	13:10	19:00	0:35	6:28	13:10	19:00	☾	W	29	1:42	7:45	14:15	20:03	13.7	1.3	14.7	2.1
	F	30	0:04	5:52	12:34	18:20	12.7	2.7	13.5	2.8		M	30	1:21	7:19	13:55	19:43	1:21	7:19	13:55	19:43		Th	30	2:22	8:26	14:53	20:40	15.0	—0.1	15.7	1.0
☾	S	31	0:53	6:45	13:23	19:10	13.7	1.5	14.4	2.0	○	Tu	31	2:08	8:05	14:37	20:23	2:08	8:05	14:37	20:23											

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☽, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
N C	F	1	3:00 9:08 15:30 21:18 17.8 —2.3 17.0 —1.0		N C	M	1	4:06 10:06 16:23 22:22 16.8 0.0 15.3 —0.2		E A	W	1	4:46 10:28 16:48 22:57 15.1 2.0 14.1 0.7	
	S	2	3:42 9:47 16:08 21:58 17.5 —1.8 16.4 —0.7			Tu	2	4:56 10:48 17:05 23:09 15.5 1.4 14.1 0.9			Th	2	5:39 11:10 17:32 23:43 13.9 3.2 13.1 1.6	
	S	3	4:24 10:29 16:47 22:39 16.9 —0.7 15.4 0.0			W	3	5:51 11:34 17:55 14.1 3.0 12.8			F	3	6:43 12:00 18:35 12.8 4.3 12.3	
	M	4	5:12 11:12 17:30 23:25 15.9 0.7 14.2 1.1			Th	4	6:05 7:04 12:28 19:00 2.1 12.8 4.4 11.6			S	4	6:47 7:55 13:00 19:50 2.6 12.0 5.2 11.8	
	Tu	5	6:06 12:00 18:20 14.4 2.4 12.7			F	5	1:14 8:30 14:03 20:41 3.2 12.0 5.6 11.6			S	5	2:01 9:09 14:32 21:06 3.5 11.6 5.8 12.0	
	W	6	6:19 7:17 13:00 19:36 2.3 13.0 4.1 11.5			S	6	2:45 9:59 15:53 22:00 3.8 12.0 5.7 12.2			M	6	3:19 10:17 15:57 22:15 3.7 11.8 5.6 12.4	
	Th	7	1:33 8:51 14:42 21:18 8.5 12.2 5.4 11.5			S	7	4:08 11:03 17:03 23:02 3.5 12.3 4.9 13.1			Tu	7	4:20 11:10 16:56 23:19 3.6 12.2 4.9 12.9	
	F	8	3:13 10:23 16:30 22:36 4.0 12.2 5.3 12.3			M	8	5:11 11:55 17:52 23:55 2.8 13.0 4.1 13.8			W	8	5:14 11:55 17:40 23:56 3.3 12.7 4.1 13.4	
	S	9	4:41 11:35 17:42 23:38 3.5 12.8 4.5 13.3			Tu	9	6:00 12:35 18:30 2.3 13.7 3.3			Th	9	5:57 12:30 18:18 2.9 12.3 3.4	
	S	10	5:43 12:25 18:28 2.6 13.5 3.6			W	10	6:37 6:39 13:10 18:59 14.5 1.7 14.2 2.7			F	10	6:40 6:34 13:04 18:48 13.8 2.4 13.7 2.6	
	M	11	6:27 6:33 13:07 19:05 14.3 1.7 14.3 2.8			Th	11	1:14 7:11 13:39 19:24 14.8 1.4 14.5 2.1			S	11	1:16 7:06 13:35 19:20 14.1 2.0 14.0 1.8	
	Tu	12	1:06 7:12 13:43 19:35 15.0 1.0 14.8 2.3			F	12	1:46 7:38 14:05 19:50 15.0 1.1 14.5 1.5			S	12	1:50 7:36 14:01 19:50 14.5 1.6 14.3 1.6	
E A	W	13	1:45 7:45 14:13 20:59 15.5 0.6 14.9 1.9		S	S	13	2:14 8:02 14:27 20:13 15.1 1.0 14.7 0.9		S	M	13	2:22 8:06 14:31 20:31 14.8 1.3 14.6 0.5	
	Th	14	2:17 8:11 14:38 20:20 15.6 0.5 14.9 1.4			S	14	2:41 8:29 14:50 20:42 15.1 0.8 14.7 0.5			Tu	14	3:02 8:40 15:00 21:06 14.9 1.2 14.8 0.1	
	F	15	2:40 8:33 14:58 20:38 15.3 0.5 14.8 1.1			M	15	3:09 8:58 15:15 21:17 15.0 0.9 14.7 0.4			W	15	3:33 9:18 15:35 21:47 14.9 1.3 14.7 0.0	
	S	16	3:04 8:58 15:17 21:04 15.2 0.5 14.7 0.8			Tu	16	3:40 9:31 15:45 21:57 14.9 1.2 14.5 0.5			Th	16	4:14 9:58 16:14 22:33 14.6 1.6 14.4 0.2	
	S	17	3:32 9:25 15:37 21:35 15.1 0.6 14.5 0.7			W	17	4:17 10:10 16:20 22:39 14.4 1.7 14.1 0.9			F	17	4:58 10:42 16:57 23:22 14.1 2.2 13.9 0.7	
	M	18	3:57 9:54 16:02 22:10 14.9 1.0 14.3 0.9			Th	18	5:01 10:52 17:01 23:30 13.7 2.4 13.4 1.5			S	18	5:52 11:30 17:50 13.4 2.8 13.4	
	Tu	19	4:30 10:30 16:37 22:52 14.4 1.6 13.8 1.4			F	19	5:55 11:43 17:54 13.0 3.4 12.5			S	19	6:18 6:50 12:28 18:51 1.2 12.8 3.5 12.8	
	W	20	5:11 11:10 17:19 23:41 13.7 2.4 13.1 2.1			S	20	6:30 7:10 12:45 19:06 2.2 12.1 4.2 11.8			M	20	1:23 8:12 13:36 20:08 1.9 12.4 4.1 12.5	
	Th	21	6:08 12:00 18:06 12.8 3.4 12.2			S	21	1:41 8:48 14:05 20:45 2.7 11.8 4.8 11.7			Tu	21	2:32 9:31 14:52 21:31 2.3 12.4 4.2 12.8	
	F	22	6:41 7:16 13:04 19:19 2.9 11.8 4.5 11.2			M	22	3:05 10:14 15:42 22:15 2.7 12.5 4.5 12.8			W	22	3:45 10:38 16:15 22:48 2.3 12.9 3.7 13.7	
	S	23	1:57 9:14 14:32 21:21 3.4 11.4 5.1 11.1			Tu	23	4:29 11:13 16:57 23:18 2.0 13.5 3.5 14.1			Th	23	4:56 11:37 17:20 23:49 1.9 13.6 2.8 14.6	
D P O	S	24	3:32 10:43 16:22 22:51 3.3 12.4 4.6 12.6		P	W	24	5:24 12:03 17:50 1.0 14.5 2.3		O N	F	24	5:58 12:27 18:15 1.4 14.5 1.8	
	M	25	4:50 11:43 17:30 23:50 2.2 13.7 3.4 14.2			Th	25	6:10 6:15 12:48 18:37 15.3 0.1 15.4 1.1			S	25	6:44 6:46 13:14 19:05 15.6 1.0 15.1 0.8	
	Tu	26	5:50 12:31 18:19 0.7 15.0 2.0			F	26	1:00 7:02 13:30 19:20 16.3 —0.5 16.0 0.1			S	26	1:35 7:35 13:56 19:52 16.0 0.7 15.7 0.0	
	W	27	6:37 6:38 13:12 19:01 15.6 —0.5 16.1 0.7			S	27	1:45 7:45 14:10 20:00 16.9 —0.7 16.3 —0.6			M	27	2:22 8:18 14:36 20:35 16.3 0.7 15.7 —0.4	
	Th	28	1:20 7:24 13:58 19:40 16.8 —1.5 16.8 —0.4			S	28	2:28 8:27 14:48 20:42 17.1 —0.5 16.2 —0.9			Tu	28	3:06 9:00 15:18 21:18 16.2 1.0 15.7 —0.4	
	F	29	2:02 8:05 14:30 20:19 17.5 —1.9 17.0 —1.0			M	29	3:12 9:08 15:26 21:25 16.9 0.0 15.8 —0.7			W	29	3:52 9:37 15:53 22:06 15.7 1.5 15.2 —0.1	
	S	30	2:41 8:45 15:06 20:58 17.7 —1.7 16.8 —1.2			Tu	30	3:58 9:47 16:05 22:10 16.2 0.9 15.1 —0.2			Th	30	4:38 10:13 16:35 22:43 14.9 2.2 14.6 0.4	
	S	31	3:25 9:25 15:44 21:38 17.5 —1.0 16.2 —0.9								F	31	5:22 10:50 17:16 23:28 14.0 2.9 13.9 1.1	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
	F 1	1:05	7:51	14:00	20:27		M 1	2:58	9:36	15:38	22:08		N M 1	1:10	7:57	13:50	20:32
		16.5	2.4	16.0	4.2			15.6	3.4	15.8	3.6			15.3	4.6	14.8	4.6
	S 2	2:16	8:59	15:06	21:31	N	Tu 2	4:10	10:37	16:38	23:05		Tu 2	2:35	9:12	15:08	21:45
		16.5	2.1	16.4	3.5			16.0	3.0	16.5	2.7			14.9	4.7	14.8	4.0
	S 3	3:24	9:58	16:05	22:30		W 3	5:10	11:38	17:28	23:56		W 3	3:55	10:20	16:16	22:46
		16.7	1.9	16.9	2.8			16.6	2.6	17.1	1.8			15.1	4.2	15.6	3.0
	M 4	4:25	10:54	16:57	23:22		Th 4	6:00	12:06	18:11			Th 4	4:58	11:15	17:08	23:35
		17.1	1.5	17.6	2.0			17.0	2.2	17.8				15.9	3.4	16.6	2.0
	Tu 5	5:20	11:44	17:42		O	F 5	0:38	6:42	12:57	18:48		F 5	5:47	11:59	17:52	
		17.6	1.3	18.2				1.1	17.3	2.0	18.3			16.6	2.6	17.5	
N	W 6	0:08	6:08	12:28	18:25		S 6	1:12	7:16	13:32	19:21		S 6	0:18	6:25	12:38	18:29
O		1.3	18.0	1.3	18.4			0.7	17.6	2.0	18.6			1.1	17.3	2.1	18.3
	Th 7	0:52	6:50	13:10	19:02		S 7	1:52	7:46	14:03	19:50		S 7	0:55	6:57	13:12	19:00
		0.9	18.0	1.6	18.6			0.6	17.7	2.2	18.8	O		0.5	17.8	1.7	18.8
	F 8	1:32	7:28	13:46	19:36	A	M 8	2:23	8:14	14:30	20:20		M 8	1:28	7:24	13:42	19:28
		0.8	17.8	2.1	18.6			0.7	17.8	2.5	18.8			0.3	18.2	1.7	19.1
	S 9	2:08	8:02	14:19	20:07		Tu 9	2:52	8:48	14:55	20:50	E	Tu 9	1:58	7:50	14:07	19:57
		0.9	17.5	2.6	18.4			0.9	17.9	2.8	18.8			0.3	18.5	1.7	19.2
	S 10	2:42	8:35	14:50	20:38	E	W 10	3:23	9:15	15:23	21:23		W 10	2:25	8:16	14:29	20:24
		1.2	17.3	3.3	18.2			1.2	18.0	3.0	18.6			0.5	18.8	2.0	19.2
A	M 11	3:17	9:10	15:20	21:13		Th 11	3:56	9:50	15:57	22:00		Th 11	2:50	8:45	14:57	20:55
		1.5	17.1	3.8	18.0			1.6	18.0	3.2	18.2			0.8	18.9	2.1	19.1
	Tu 12	3:53	9:45	15:54	21:52		F 12	4:34	10:31	16:40	22:45		F 12	3:22	9:16	15:30	21:30
		1.9	16.9	4.2	17.6			2.2	17.7	3.6	17.6			1.3	18.8	2.3	18.8
E	W 13	4:34	10:26	16:35	22:35	C	S 13	5:22	11:20	17:35	23:39		S 13	3:57	9:55	16:08	22:14
		2.4	16.8	4.5	17.2			2.9	17.2	4.2	16.8			2.0	18.4	2.7	18.1
C	Th 14	5:20	11:14	17:26	23:27		S 14	6:18	12:20	18:47			S 14	4:40	10:42	15:59	23:07
		2.8	16.5	4.9	16.7			3.7	16.5	4.8				2.8	17.6	3.6	17.2
	F 15	6:13	12:10	18:30			M 15	0:48	7:30	13:30	20:08	C	M 15	5:35	11:38	18:10	
		3.3	16.2	5.1				16.1	4.3	16.0	4.6			4.0	16.7	4.4	
	S 16	0:25	7:13	13:12	19:42		Tu 16	2:03	8:48	14:46	21:28	S	Tu 16	0:14	6:50	12:50	19:36
		16.2	3.5	16.1	4.9			15.8	4.1	16.2	3.7			16.2	4.9	15.8	4.6
	S 17	1:32	8:18	14:20	20:56	S	W 17	3:23	10:02	15:57	22:35		W 17	1:35	8:20	14:12	21:00
		16.0	3.5	16.3	4.3			16.3	3.2	16.9	2.3			15.6	4.8	15.6	3.7
	M 18	2:43	9:25	15:25	22:02		Th 18	4:33	11:03	16:58	23:32		Th 18	3:02	9:40	15:32	22:10
		16.1	3.0	16.9	3.3			17.4	2.1	13.2	0.8			16.0	3.8	16.5	2.1
	Tu 19	3:52	10:27	16:25	22:59		F 19	5:32	11:57	17:52			F 19	4:16	10:44	16:37	23:10
		16.7	2.7	17.8	2.1			18.6	1.0	19.5				17.2	2.5	18.0	0.4
S	W 20	4:52	11:22	17:19	23:51	P	S 20	0:21	6:22	12:44	18:38		S 20	5:15	11:37	17:30	23:58
		17.7	1.4	18.6	0.9			-0.6	19.6	0.1	20.5			18.7	1.0	19.5	-1.1
	Th 21	5:47	12:12	18:08			S 21	1:07	7:07	13:27	19:20	P	S 21	6:04	12:24	18:18	
		18.7	0.8	19.5				-1.6	20.4	0.4	21.2			20.0	-0.1	20.8	
●	F 22	0:38	6:36	12:58	18:53		M 22	1:50	7:50	14:09	20:02	●	M 22	0:45	6:48	13:07	19:01
		-0.1	19.4	0.4	20.2			-2.2	20.7	-0.4	21.4	E		-2.2	20.9	-0.8	21.5
P.	S 23	1:23	7:22	13:42	19:36	E	Tu 23	2:32	8:32	14:50	20:43		Tu 23	1:28	7:28	13:48	19:40
		-0.8	19.8	0.3	20.5			-2.1	20.6	-0.1	21.1			-2.6	21.2	-1.0	21.7
	S 24	2:05	8:06	14:25	20:18		W 24	3:13	9:13	15:30	21:24		W 24	2:08	8:07	14:26	20:21
		-1.2	19.9	0.5	20.6			-1.6	20.1	0.7	20.4			-2.5	21.1	-0.7	21.3
	M 25	2:50	8:50	15:17	21:00		Th 25	3:57	9:56	16:13	22:08		Th 25	2:48	8:47	15:05	21:00
		-1.1	19.7	1.0	20.2			-0.6	19.2	1.7	19.2			-1.6	20.5	0.1	20.4
E	Tu 26	3:35	9:36	15:58	21:46		F 26	4:45	10:42	17:03	22:58		F 26	3:30	9:27	15:47	21:43
		-0.8	19.2	1.7	19.6			0.8	18.0	2.9	17.8			-0.3	19.5	1.2	19.2
	W 27	4:21	10:24	16:42	22:34	D	S 27	5:38	11:33	18:02	23:56		S 27	4:15	10:08	16:34	22:38
		0.0	18.5	2.6	18.7			2.4	16.7	4.0	16.4			1.3	19.2	2.5	17.9
D	Th 28	5:13	11:16	17:36	23:28		S 28	6:43	12:37	19:15		D	S 28	5:07	10:57	17:20	23:30
		0.9	17.6	3.5	17.7			3.8	15.5	4.6		N		3.1	16.8	3.6	16.3
	F 29	6:11	12:14	18:40									M 29	6:10	11:55	18:42	
		1.9	16.5	4.2										4.6	15.4	4.5	
	S 30	0:28	7:18	13:20	19:50								Tu 30	0:41	7:25	13:10	20:00
		16.6	2.9	15.8	4.5									14.9	5.5	14.3	4.6
	S 31	1:41	8:28	14:30	21:02								W 31	2:10	8:45	14:32	21:15
		15.8	3.3	15.5	4.2									14.3	5.5	14.5	4.1

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.															
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.										
	W.	Mo.										W.	Mo.										W.	Mo.											
A	Th	1	3:31	9:53	15:42	22:16	14.6	4.9	15.2	3.1	E	S	1	3:50	10:09	15:55	22:26	15.3	4.3	16.2	2.1	O	Tu	1	4:28	10:53	16:43	23:12	17.2	2.8	17.4	1.2			
	F	2	4:33	10:48	16:37	23:06	15.5	3.9	16.4	2.0		S	2	4:37	10:55	16:43	23:10	16.4	3.3	17.1	1.2		W	2	5:10	11:37	17:25	23:52	18.2	2.0	18.0	0.9			
	S	3	5:18	11:32	17:22	23:48	16.5	2.9	17.4	1.0		M	3	5:15	11:34	17:23	23:50	17.4	2.3	17.9	0.6		Th	3	5:48	12:16	18:05	24:35	18.9	1.4	18.4	...			
	S	4	5:55	12:10	18:00	24:18	17.4	2.1	18.3	...		Tu	4	5:50	12:10	17:58	24:18	18.3	1.6	18.5	...		F	4	6:31	12:55	18:45	25:18	19.8	1.1	18.8	...			
	M	5	6:25	12:43	18:32	24:48	0.4	18.2	1.5	18.8		W	5	6:25	12:44	18:33	0.3	18.9	1.2	18.8	...		S	5	7:08	13:30	19:23	25:58	1.0	19.3	0.9	18.8			
E	Tu	6	6:58	13:12	19:02	25:18	0.1	18.7	1.2	19.1	O	Th	6	6:58	13:15	19:06	0.4	19.4	1.0	18.9	...	S	6	7:38	14:08	20:03	26:38	1.5	19.3	1.0	18.6				
	W	7	7:27	13:40	19:30	25:48	0.1	19.1	1.2	19.3		F	7	7:28	13:46	19:38	0.7	19.5	1.1	19.1	...	M	7	8:17	14:50	20:45	27:18	2.1	19.0	1.2	18.3				
	Th	8	7:58	14:06	19:58	26:18	0.4	19.3	1.3	19.3		S	8	7:55	14:18	20:15	1.2	19.4	1.3	18.9	...	Tu	8	9:00	15:35	21:34	28:03	3.0	17.9	2.0	17.2				
	F	9	8:18	14:34	20:30	26:48	0.9	19.4	1.6	19.3		S	9	8:30	14:56	20:52	1.9	19.0	1.7	18.5	...	W	9	9:47	16:28	22:29	28:38	3.3	17.9	2.0	17.2				
	S	10	8:48	15:08	21:08	27:18	1.4	19.2	1.9	18.9		M	10	9:08	15:41	21:40	2.7	18.4	2.2	17.8	...	Th	10	10:41	17:28	23:32	29:18	4.2	17.3	2.2	16.7				
S	S	11	9:28	15:29	21:57	27:48	2.2	18.6	2.4	18.1	C	Tu	11	9:55	16:35	22:36	3.6	17.5	2.8	16.9	...	F	11	11:45	18:33	24:35	30:03	4.6	16.8	2.3	16.4				
	M	12	10:13	16:41	22:46	28:18	3.1	17.7	3.2	17.1		W	12	10:52	17:40	23:43	4.6	16.7	3.3	16.2	...	S	12	12:54	19:40	25:45	31:18	6.0	16.4	4.6	16.0				
	Tu	13	11:08	17:50	23:34	28:48	4.3	16.6	4.0	16.1		Th	13	12:02	18:55	24:57	5.2	16.1	3.3	15.8	...	S	13	1:50	8:18	14:05	20:47	16.5	4.1	16.9	1.5				
	W	14	12:20	19:12	24:30	29:18	5.2	15.7	4.0	15.2		F	14	1:00	13:20	20:09	15.9	5.0	16.0	2.6	...	M	14	2:57	9:20	15:12	21:48	17.0	3.2	17.4	0.9				
	Th	15	1:16	7:57	13:48	20:33	15.6	5.1	15.6	3.3		S	15	2:20	8:50	14:37	21:16	16.3	4.1	16.8	1.4	...	Tu	15	3:56	10:19	16:12	22:42	17.7	2.3	18.0	0.4			
P	F	16	2:41	9:17	15:04	21:45	16.0	4.1	16.5	1.7	E	S	16	3:27	9:53	15:42	22:15	17.3	2.9	17.9	0.2	...	W	16	4:47	11:12	17:05	23:38	18.5	1.4	18.6	0.1			
	S	17	3:58	10:20	16:10	22:42	17.3	2.6	18.0	0.1		M	17	4:23	10:45	16:37	23:07	18.4	1.6	19.0	-0.7	...	Th	17	5:35	11:59	17:56	24:31	19.1	0.8	18.8	...			
	S	18	4:50	11:13	17:04	23:33	18.7	1.2	19.4	-1.2		Tu	18	5:13	11:34	17:27	23:55	19.5	0.6	19.8	-1.2	...	F	18	6:20	12:45	18:42	25:15	0.2	19.4	0.4	19.0			
	M	19	5:39	11:58	17:52	24:18	20.0	0.0	20.5	...		W	19	5:57	12:20	18:13	24:57	20.1	-0.1	20.1	...	S	19	7:05	13:27	19:23	26:03	0.6	19.2	0.4	18.6				
	Tu	20	6:19	12:42	18:36	25:00	-2.1	20.8	-0.7	21.2		Th	20	6:48	13:02	18:57	-1.2	20.4	-0.3	20.1	...	S	20	8:15	14:08	20:04	26:58	1.3	18.9	0.6	18.1				
N	W	21	7:02	13:23	19:17	-2.3	21.1	-0.9	21.2	N	F	21	7:18	13:42	19:37	1:22	7:18	13:42	19:37	-0.6	20.2	-0.1	19.8	...	M	21	9:24	14:49	20:45	27:58	2.2	18.6	1.0	17.5	
	Th	22	7:41	14:02	19:57	-1.8	20.9	-0.6	20.7		S	22	7:56	14:28	20:20	2:02	7:56	14:28	20:20	0.3	19.6	0.4	19.0	...	Tu	22	10:53	15:30	21:35	28:45	3.0	8.51	15:30	21:35	
	F	23	8:18	14:42	20:38	-2.2	20.3	0.1	20.0		S	23	8:34	15:05	21:02	2:48	8:34	15:05	21:02	1.5	18.7	1.1	18.0	...	W	23	12:05	16:12	22:08	29:18	3:48	9:30	16:12	22:08	
	S	24	8:58	15:23	21:20	-0.5	19.3	1.1	18.8		M	24	9:12	15:49	21:47	3:23	9:12	15:49	21:47	2.8	17.8	2.0	16.9	...	Th	24	13:13	17:00	22:57	30:03	4.6	17.0	2.7	15.9	
	S	25	9:38	16:09	22:08	2.1	18.0	2.2	17.4		Tu	25	9:55	16:39	22:38	4:08	9:55	16:39	22:38	4.1	16.9	2.8	15.9	...	F	25	14:02	17:53	23:49	31:18	5:13	11:02	17:53	23:49	
D	M	26	10:22	17:03	23:08	3.8	16.6	3.3	16.0	D	W	26	10:45	17:36	23:37	5:01	10:45	17:36	23:37	5.1	16.1	3.5	15.1	...	S	26	15:18	18:48	24:35	32:03	6:11	11:58	18:48	24:35	
	Tu	27	11:18	18:08	24:18	5.1	15.5	4.1	...		Th	27	11:44	18:40	24:57	6:06	11:44	18:40	24:57	5.8	15.4	3.7	14.9	...	S	27	16:11	19:41	25:18	32:38	6:4	16.1	3.4	14.9	
	W	28	12:26	19:24	25:30	0.12	14.7	5.9	14.7		4.3	F	28	12:50	19:45	26:03	0:48	12:50	19:45	26:03	14.7	5.8	15.2	3.6	...	M	28	17:15	20:46	26:03	33:03	1:47	16.1	3.6	15.9
	Th	29	13:45	20:34	26:48	1:32	14.2	5.9	14.6		4.1	S	29	14:00	20:45	27:18	1:52	14:00	20:45	27:18	14.7	5.4	15.4	3.1	...	Tu	29	18:04	21:42	27:18	33:58	2:47	19.1	15:04	21:42
	F	30	14:57	21:35	28:18	2:49	14.5	5.8	15.2		3.1	S	30	15:02	21:40	28:18	2:52	15:02	21:40	28:18	15.3	4.6	16.0	2.4	...	W	30	19:02	22:35	28:03	34:38	3:42	10:13	16:02	22:35
A										E	M	31	15:55	22:27	3:45	10:08	15:55	22:27	16.2	3.7	16.7	1.7	...												

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.				AUGUST.				SEPTEMBER.			
Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.	Moon.	Day of—		Time and Height of High and Low Water.
	W.	Mo.			W.	Mo.			W.	Mo.	
U	Th	1	4:33 11:06 16:54 23:24 17.7 2.4 17.4 1.5	○ S	1	5:45 12:18 18:13 . . . 18.8 0.5 18.7 . . .	P W	1	1:05 6:57 13:25 19:27 —0.2 20.9 —1.9 20.6		
	F	2	5:20 11:53 17:42 . . . 18.4 1.6 18.0 . . .	M	2	0:39 6:30 13:02 19:00 0.9 19.6 —0.3 19.3	E Th	2	1:46 7:37 14:07 20:07 —0.4 20.3 —2.1 20.7		
	S	3	0:10 6:04 12:36 18:28 1.2 18.9 0.9 18.8	Tu	3	1:22 7:13 13:45 19:43 0.6 20.1 —0.8 19.6	F	3	2:25 8:17 14:48 20:47 —0.2 21.1 —1.6 20.3		
	S	4	0:52 6:45 13:18 19:11 1.2 19.3 0.5 18.7	P W	4	2:04 7:54 14:27 20:27 0.6 20.4 —1.0 19.6	S	4	3:05 8:58 15:30 21:28 0.5 20.5 —0.7 19.5		
	M	5	1:33 7:25 13:58 19:54 1.3 19.6 0.3 18.8	Th	5	2:45 8:36 15:10 21:10 1.0 20.3 —0.8 19.4	S	5	3:47 9:42 16:17 22:13 1.4 19.5 0.6 18.4		
	Tu	6	2:15 8:07 14:42 20:38 1.7 19.4 0.3 18.7	E F	6	3:26 9:19 15:56 21:55 1.5 19.8 —0.2 18.8	☾ M	6	4:34 10:30 17:10 23:04 2.5 18.2 2.1 17.1		
	P W	7	2:57 8:50 15:27 21:25 2.2 19.2 0.5 18.4	S	7	4:12 10:05 16:45 22:43 2.3 19.1 0.6 18.0	Tu	7	5:31 11:27 18:10 . . . 3.6 16.9 3.3 . . .		
	Th	8	3:42 9:35 16:16 22:16 2.7 18.8 0.8 17.9	☾ S	8	5:03 10:57 17:39 23:38 3.1 18.1 1.6 17.0	N W	8	0:03 6:43 12:48 19:28 15.8 4.3 15.6 4.5		
	E F	9	4:33 10:26 17:10 23:12 3.4 18.2 1.3 17.3	M	9	6:02 11:55 18:42 . . . 3.8 17.0 2.6 . . .	Th	9	1:18 8:08 14:03 20:46 15.0 4.4 15.0 4.6		
	☾ S	10	5:32 11:22 18.08 . . . 3.9 17.6 1.7 . . .	Tu	10	0:42 7:13 13:02 19:53 16.1 4.3 16.1 3.3	F	10	2:40 9:18 15:29 21:55 14.8 3.8 15.2 4.1		
	S	11	0:12 6:38 12:23 19:13 16.8 4.2 17.0 2.1	W	11	1:52 8:28 14:22 21:06 15.6 4.2 15.7 3.4	S	11	3:52 10:21 16:37 22:53 15.6 2.8 16.0 3.3		
	M	12	1:16 7:48 13:32 20:20 16.4 4.1 16.6 2.2	N Th	12	3:06 9:38 15:38 22:10 15.7 3.5 16.0 3.1	S	12	4:48 11:15 17:27 23:40 16.6 1.7 16.8 2.3		
P	Tu	13	2:26 8:55 14:43 21:26 16.3 3.7 16.6 2.1	F	13	4:12 10:40 16:45 23:08 16.3 2.6 16.5 2.6	M	13	5:35 11:59 18:09 . . . 17.7 0.8 17.6 . . .		
	W	14	3:30 9:58 15:52 22:25 16.7 3.0 17.2 1.8	S	14	5:07 11:33 17:40 23:58 17.0 1.7 17.1 2.1	● Tu	14	0:22 6:13 12:38 18:43 1.8 18.4 0.2 18.0		
	Th	15	4:28 10:55 16:54 23:20 17.3 2.2 17.4 1.5	● S	15	5:53 12:20 18:26 . . . 17.3 1.9 17.5 . . .	W	15	0:57 6:47 13:13 19:12 1.5 18.9 0.0 18.3		
	N F	16	5:20 11:48 17:47 . . . 17.9 1.4 17.8 . . .	M	16	0:40 6:33 13:00 19:03 1.8 18.4 0.5 17.7	E A Th	16	1:28 7:15 13:43 19:37 1.5 19.1 0.2 18.4		
	● S	17	0:10 6:07 12:33 18:35 1.4 18.2 0.9 17.9	Tu	17	1:18 7:07 13:37 19:37 1.8 18.7 0.3 17.8	F	17	1:54 7:40 14:10 20:02 1.6 19.1 0.6 18.5		
	S	18	0:53 6:47 13:16 19:17 1.5 18.5 0.6 17.9	W	18	1:52 7:37 14:10 20:05 1.9 18.8 0.5 17.8	S	18	2:15 8:07 14:35 20:26 2.0 19.0 1.1 18.6		
	M	19	1:35 7:22 13:56 19:53 1.8 18.6 0.6 17.6	Th	19	2:22 8:06 14:40 20:32 2.3 18.8 0.8 17.8	S	19	2:40 8:35 15:02 20:55 2.2 18.9 1.6 18.6		
	Tu	20	2:10 7:55 14:33 20:28 2.3 18.5 0.9 17.4	F	20	2:45 8:34 15:10 21:00 2.7 18.7 1.2 17.8	M	20	3:08 9:10 15:33 21:32 2.4 18.7 2.2 18.3		
	W	21	2:44 8:28 15:07 21:00 2.9 18.3 1.2 17.1	S	21	3:10 9:05 15:40 21:30 3.0 18.5 1.8 17.8	Tu	21	3:47 9:51 16:13 22:14 2.8 18.0 2.9 17.6		
	Th	22	3:13 9:02 15:43 21:34 3.5 18.1 1.6 17.0	S	22	3:40 9:40 16:15 22:08 3.2 18.2 2.3 17.6	☾ W	22	4:33 10:40 17:02 23:08 3.4 17.2 4.0 16.7		
	A F	23	3:47 9:38 16:22 22:12 4.0 17.8 2.2 16.8	M	23	4:20 10:23 16:57 22:54 3.5 17.7 3.0 17.1	S Th	23	5:36 11:43 18:12 . . . 4.3 16.1 5.1 . . .		
D	S	24	4:24 10:20 17:05 22:55 4.3 17.4 2.7 16.5	☾ Tu	24	5:10 11:14 17:50 23:50 4.1 16.9 3.9 16.4	F	24	0:15 7:02 13:02 19:45 15.8 4.7 15.4 5.3		
	☾ S	25	5:08 11:06 17:52 23:45 4.6 16.9 3.3 16.3	W	25	6:15 12:17 18:58 . . . 4.7 16.1 4.6 . . .	S	25	1:35 8:28 14:29 21:11 15.4 4.0 15.6 4.3		
	M	26	6:05 12:00 18:48 . . . 5.0 16.3 3.7 . . .	Th	26	0:57 7:38 13:32 20:18 15.9 4.9 15.6 4.5	S	26	2:57 9:43 15:46 22:18 16.1 2.5 16.8 2.9		
	Tu	27	0:43 7:13 13:03 19:52 16.0 5.1 15.8 3.9	S F	27	2:13 8:59 14:53 21:35 15.9 4.1 15.9 3.8	M	27	4:07 10:43 16:47 23:13 17.6 0.8 18.3 1.3		
	W	28	1:48 8:26 14:12 20:58 15.9 4.7 15.7 3.6	S	28	3:26 10:09 16:05 22:40 16.4 2.8 16.8 2.6	Tu	28	5:03 11:33 17:38 . . . 19.1 —0.8 19.7 . . .		
	Th	29	2:50 9:37 15:23 22:02 16.3 3.9 16.2 2.5	S	29	4:31 11:08 17:06 23:33 17.7 1.2 18.1 1.4	☾ P W	29	0:00 5:50 12:20 18:23 0.1 20.5 —2.0 20.8		
	S F	30	3:57 10:37 16:27 23:00 17.1 2.7 17.0 2.2	M	30	5:25 11:58 17:58 . . . 19.0 —0.2 19.2 . . .	Th	30	0:44 6:35 13:02 19:05 —0.8 21.4 —2.6 21.3		
	S	31	4:54 11:30 17:25 23:52 17.9 1.5 17.9 1.4	○ Tu	31	0:22 6:13 12:43 18:45 0.4 20.1 —1.3 20.1					

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N C	F	1	1:22	7:16	18:48	19:42	M	1	2:20	8:17	14:42	20:37	W	1	2:46	8:44	15:07	20:55		
	S	2	—1.1	21.7	—2.5	21.4	N	Tu	2	—0.4	20.4	0.0	19.8	Th	2	0.4	18.5	2.1	18.5	
	S	3	2:02	7:56	14:23	20:22			3:03	8:59	15:26	21:17			3:32	9:30	15:52	21:37		
			—0.9	21.4	—1.8	20.8	W	3	0.5	19.1	1.6	18.5	F	3	1.2	17.4	3.5	17.5		
	M	4	2:41	8:36	15:05	21:02			3:48	9:47	16:15	22:02			4:20	10:20	16:43	22:28		
			—0.3	20.6	—0.6	19.8	C	Th	4	1.6	17.7	3.3	17.0	S	4	2.1	16.3	4.6	16.3	
E A	Tu	5	3:23	9:20	15:50	21:44			4:42	10:42	17:15	22:55	C	S	4	5:16	11:17	17:43	23:22	
	W	6	0.8	19.6	1.0	18.5			2.8	16.8	4.8	15.8			3.0	15.3	5.5	15.7		
	Th	7	4:10	10:08	16:40	22:32			5:47	11:50	18:23	23:47	S	5	6:18	12:22	18:47	24:17		
			2.0	18.2	2.7	17.1			3.7	15.0	5.7	14.3			3.4	15.3	5.8	14.3		
			5:05	11:05	17:43	23:28			0:02	7:00	13:10	19:38	M	6	0:27	7:23	13:30	19:55		
			3.2	16.6	4.3	15.6			14.9	4.0	14.3	5.9			15.3	3.5	14.6	5.5		
S	F	8	6:16	12:15	18:57	24:17			1:20	8:10	14:30	20:50	E	Tu	7	1:37	8:25	14:34	20:57	
			4.1	15.1	5.3	14.1			14.7	8.8	14.5	5.6			15.3	3.3	15.0	4.9		
	S	9	0:42	7:32	13:43	20:18			2:35	9:13	15:35	21:48	W	8	2:43	9:20	15:28	21:50		
			14.6	4.4	14.4	5.5			15.2	8.0	15.2	4.4			15.7	2.8	15.8	4.1		
	M	10	2:05	8:47	15:10	21:30	A	Tu	9	3:37	10:16	16:22	22:37	Th	9	3:38	10:10	16:16	22:28	
			14.5	4.0	14.7	4.9	E		16.1	2.1	16.2	3.4			16.2	2.1	16.7	3.1		
E A	S	11	3:20	9:52	16:14	22:27			4:27	10:52	17:02	23:17	F	10	4:28	10:56	16:57	23:22		
			15.3	3.0	15.6	4.0			17.0	1.3	17.2	2.4			16.9	1.6	17.6	2.5		
	Tu	12	4:17	10:45	17:02	23:13			5:08	11:32	17:35	23:54	S	11	5:12	11:38	17:35	23:57		
			16.4	1.8	16.5	2.9			17.8	0.7	18.1	1.7			17.5	1.3	18.4	2.1		
	W	13	5:04	11:29	17:40	23:52			5:45	12:10	18:07	24:27	S	12	0:02	5:52	12:16	18:11		
			17.4	0.9	17.5	2.0			18.8	0.4	18.7	1.1			1.7	18.0	1.1	18.5		
S	Th	14	5:43	12:07	18:11	24:47			0:28	6:18	12:43	18:37	M	13	0:40	6:30	12:53	18:47		
			18.3	0.3	18.2	1.1			1.3	18.5	0.5	19.1			1.3	18.3	1.2	19.0		
	F	15	0:26	6:17	12:40	18:40			1:00	6:51	13:13	19:07	S	Tu	14	1:16	7:07	13:28	19:20	
			1.5	18.8	0.0	18.6			1.2	18.8	0.9	19.2			1.0	18.5	1.5	19.1		
	S	16	0:57	6:47	13:12	19:05			1:32	7:22	13:42	19:35	W	15	1:52	7:45	14:03	19:57		
			1.2	19.0	0.2	18.9			1.2	18.8	1.4	19.2			1.0	18.4	2.0	19.0		
S	M	17	1:25	7:15	13:40	19:32			2:02	7:55	14:12	20:07	Th	16	2:30	8:23	14:40	20:35		
			1.2	19.0	0.5	19.0			1.4	18.6	2.1	18.9			1.0	18.3	2.6	18.7		
	Tu	18	1:51	7:43	14:05	19:58			2:37	8:30	14:45	20:43	F	17	3:13	9:07	15:23	21:15		
			1.4	19.0	1.1	19.1			1.7	18.3	2.8	18.5			1.3	18.0	3.2	18.5		
	W	19	2:18	8:13	14:32	20:28			3:18	9:13	15:28	21:28	S	18	4:00	9:57	16:13	22:08		
			1.7	18.9	1.8	18.9			2.1	17.7	3.6	17.8			1.6	17.5	4.0	17.7		
D	Th	20	2:48	8:46	15:03	21:03			4:07	10:05	16:18	22:19	S	19	4:55	10:54	17:13	23:06		
			2.0	18.5	2.5	18.5			2.7	17.1	4.5	17.0			2.0	17.0	4.5	17.1		
	F	21	3:28	9:27	15:43	21:45			5:07	11:07	17:28	23:23	M	20	5:56	11:58	18:24	24:17		
			2.5	17.9	3.3	17.7			3.2	16.3	5.2	16.3			2.8	16.5	4.7	16.5		
	S	22	4:17	10:18	16:34	22:37			6:18	12:22	18:53	24:27	Tu	21	0:12	7:02	13:08	19:37		
			3.2	17.0	4.3	16.7			3.3	15.9	5.3	15.9			16.7	2.3	16.3	4.3		
P O	Th	23	5:18	11:22	17:47	23:44			0:38	7:32	13:40	20:13	W	22	1:22	8:10	14:18	20:45		
			4.0	16.1	5.4	15.8			16.0	2.8	16.0	4.6			16.6	2.0	16.6	3.8		
	S	24	6:38	12:40	19:18	24:57			1:57	8:43	14:52	21:20	Th	23	2:33	9:15	15:23	21:45		
			4.2	15.5	5.5	14.5			16.5	1.8	16.9	3.4			17.0	1.4	17.3	2.7		
	M	25	1:05	8:00	14:05	20:43			3:08	9:45	15:53	22:16	F	24	3:41	10:13	16:20	22:45		
			15.5	8.5	15.8	4.5			17.5	0.7	18.1	2.0			17.6	0.8	18.1	1.7		
E A	Tu	26	2:27	9:13	15:22	21:48			4:08	10:38	16:46	23:08	S	25	4:40	11:08	17:12	23:37		
			16.2	2.1	16.9	3.1			18.6	—0.4	19.2	0.8			18.2	0.3	18.9	0.9		
	W	27	3:39	10:18	16:22	22:44			5:01	11:28	17:33	23:55	C	S	26	5:34	11:58	17:59	24:27	
			17.6	0.5	18.4	1.5			19.5	—1.1	20.1	—0.1			18.8	0.1	19.5	0.1		
	Th	28	4:37	11:05	17:13	23:32			5:49	12:16	18:16	24:47	N	M	27	0:23	6:22	12:45	18:42	
			19.1	—1.0	19.8	0.2			20.1	—1.3	20.6	—0.1			0.2	19.2	0.2	19.5		
S	F	29	5:25	11:52	17:56	24:37			0:39	6:35	13:00	18:58	Th	28	1:08	7:08	13:28	19:22		
			20.3	—2.0	20.8	—0.1			—0.6	20.3	—1.0	20.6			—0.1	19.1	0.6	19.5		
	S	30	0:17	6:10	12:37	18:38			1:22	7:18	13:42	19:37	W	29	1:52	7:50	14:09	20:00		
			—0.7	21.1	—2.4	21.3			—0.6	20.2	—0.3	20.1			—0.1	18.7	1.4	19.2		
	Tu	31	1:00	6:54	13:20	19:18			2:04	8:00	14:24	20:15	Th	30	2:33	8:30	14:49	20:38		
			—1.1	21.3	—2.1	21.2			—0.2	19.5	0.9	19.8			0.2	18.1	2.2	18.4		
P O			1:40	7:34	14:00	19:57							F	31	3:14	9:11	15:30	21:15		
			—1.0	21.0	—1.2	20.7									0.7	17.5	3.1	18.2		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
C N	F 1	1:18 8.9	7:45 14.3	13:54 2.3	20:30 14.2	N	M 1	3:06 4.0	9:31 18.8	15:36 8.3	22:04 14.0	N	M 1	1:17 4.1	7:56 13.4	13:56 3.8	20:36 13.1
	S 2	2:30 3.8	8:52 14.4	14:55 2.4	21:35 14.5		Tu 2	4:17 3.5	10:32 14.2	16:39 8.0	23:01 14.5		Tu 2	2:35 4.4	9:08 13.2	15:15 4.1	21:41 13.2
	S 3	3:35 3.4	9:50 14.7	16:00 2.3	22:28 14.8		W 3	5:11 2.8	11:27 14.7	17:36 2.6	23:50 15.1		W 3	3:50 4.0	10:14 13.6	16:26 8.8	22:40 13.8
	M 4	4:36 2.8	10:52 15.1	16:56 1.9	23:20 15.4		Th 4	5:59 2.1	12:15 15.2	18:21 2.2			Th 4	4:50 3.8	11:09 14.1	17:23 8.3	23:29 14.5
	Tu 5	5:27 2.1	11:43 15.5	17:46 1.6			○ F 5	6:34 15.7	13:00 1.4	19:01 15.7	19.01 1.9		F 5	5:37 2.4	11:56 14.9	18:06 2.7	
	W 6	6:08 15.9	12:30 1.5	18:30 15.9	1.4		S 6	7:15 16.1	13:40 0.9	19:36 16.1	1.8		S 6	6:10 15.3	12:37 1.7	18:44 15.5	2.3
	Th 7	6:54 16.3	13:17 1.0	19:14 16.1	1.4		S 7	7:48 16.3	14:17 0.5	20:07 16.2	1.9		○ A S 7	6:51 16.0	13:15 1.0	19:14 16.0	1.9
	F 8	7:32 16.4	13:58 0.8	19:52 16.2	1.6		A M 8	8:22 16.2	14:53 0.4	20:36 16.1	2.0		A M 8	7:22 16.4	13:50 0.5	19:40 16.3	1.7
	S 9	8:09 16.2	14:38 0.6	20:28 16.0	1.9		Tu 9	8:56 16.8	15:29 0.3	21:05 15.7	2.2		E Tu 9	7:55 16.4	14:24 0.0	20:06 16.3	1.6
	S 10	8:47 15.9	15:20 0.7	21:05 15.6	2.3		E W 10	9:32 15.3	16:01 0.5	21:35 15.2	2.4		W 10	8:27 16.3	14:56 -0.1	20:34 15.0	1.6
A	M 11	9:24 15.3	15:57 1.0	21:38 15.2	2.8	Th 11	9:58 14.7	16:40 1.0	22:06 14.6	2.7	Th 11	8:01 15.8	15:28 0.1	21:03 15.6	1.7		
	Tu 12	10:02 14.6	16:40 1.3	22:15 14.7	3.3	F 12	10:48 14.2	17:21 1.5	22:46 13.9	3.0	F 12	8:29 15.3	16:01 0.36	21:37 14.9	1.8		
	E W 13	10:45 14.0	17:22 1.8	22:48 14.1	3.8	○ C S 13	11:31 13.6	18:08 2.3	23:34 13.1	3.5	S 13	9:06 14.8	16:39 1.3	22:17 14.2	2.2		
	Th 14	11:30 13.3	18:10 2.3	23:32 13.5	4.2	S 14	12:26 13.0	19:05 3.1			S 14	10:56 14.1	17:25 2.2	23:05 13.3	2.8		
	F 15	12:18 12.9	19:04 2.8			M 15	1:00 4.0	19:45 12.5	20:19 3.8	12.5	○ C M 15	11:48 13.2	18:22 3.2				
	S 16	1:02 4.5	17:04 12.6	20:02 3.2	12.8	Tu 16	2:00 4.2	18:50 12.9	21:29 4.0	13.1	S Tu 16	12:02 0.10	17:57 3.5	19:36 4.1	12.2		
	S 17	1:30 4.5	18:14 13.0	21:04 3.4	13.0	S W 17	3:20 3.7	19:05 13.7	22:31 3.5	14.2	W 17	1:31 3.9	8:29 12.9	14:20 4.4	20:59 13.0		
	M 18	2:45 4.3	9:22 13.4	15:25 3.2	13.6	Th 18	4:29 2.6	11:08 14.8	17:01 2.7	15.4	Th 18	2:57 3.6	9:46 13.7	15:39 8.9	22:10 14.2		
	Tu 19	3:50 3.5	10:28 14.1	16:25 2.7	22:56 14.5	F 19	5:27 1.3	12:00 15.9	17:55 1.7		F 19	4:10 2.5	10:46 14.8	16:46 2.9	23:05 15.5		
	S W 20	4:50 2.4	11:24 15.1	17:18 2.1	23:46 15.5	● P S 20	6:16 16.7	12:49 0.0	18:42 17.0	0.8	S 20	5:09 1.2	11:41 16.0	17:37 1.7	23:55 16.9		
P	Th 21	5:44 1.3	12:16 16.0	18:08 1.4		● P S 21	7:05 17.7	13:34 -1.1	19:25 17.7	0.1	● P S 21	6:00 -0.2	12:27 17.2	18:23 0.6			
	● F 22	6:35 16.5	13:05 0.2	18:55 16.7	0.8	M 22	7:51 18.3	14:17 -1.7	20:09 18.1	-0.2	E M 22	6:45 18.0	13:11 -1.3	19:06 18.0	-0.2		
	P S 23	7:20 17.2	13:52 -0.7	19:40 17.2	0.5	E Tu 23	8:35 18.4	15:00 -1.9	20:50 18.0	-0.1	Tu 23	7:29 18.6	13:54 -1.9	19:47 18.3	-0.6		
	S 24	8:08 17.6	14:36 -1.2	20:26 17.4	0.4	W 24	9:18 18.1	15:45 -1.5	21:34 17.5	0.3	W 24	8:11 18.8	14:36 -2.0	20:29 18.2	-0.6		
	M 25	8:55 17.6	15:24 -1.3	21:10 17.3	0.6	Th 25	9:59 17.3	16:31 -0.8	22:20 16.6	1.1	Th 25	8:54 18.4	15:19 -1.5	21:11 17.6	-0.1		
	E Tu 26	9:41 17.3	16:10 -1.0	21:56 16.8	1.1	F 26	10:51 16.2	17:23 0.4	23:10 15.5	2.2	F 26	9:38 17.4	16:05 -0.6	21:56 16.7	0.8		
	W 27	10:30 16.7	17:00 -0.4	22:46 16.2	1.8	○ D S 27	11:44 15.0	18:20 1.7			S 27	10:25 16.2	16:53 0.7	22:44 15.4	1.9		
	Th 28	11:20 15.8	17:54 0.5	23:40 15.3	2.6	○ D S 28	12:45 3.3	19:28 14.0	18.5		S 28	11:15 15.0	17:50 2.1	23:40 14.2	3.0		
	F 29	12:17 14.9	18:55 1.6								M 29	12:16 14.0	18:56 3.4				
	S 30	1:02 3.4	17:15 14.2	19:58 2.5	14.0						Tu 30	1:02 4.0	17:31 13.2	20:01 4.3	12.9		
S 31	1:52 4.0	8:24 13.9	14:25 3.1	21:05 13.8						W 31	2:05 4.3	8:41 13.1	14:53 4.6	21:11 13.0			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.										
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.					W.	Mo.					W.	Mo.						
A	Th	1	3:17	9:47	16:03	22:11		S	1	3:22	10:08	16:19	22:20		Tu	1	4:21	10:55	16:48	23:08
			4.1	13.3	4.3	13.5				3.5	13.8	4.2	14.0				2.5	14.5	3.5	14.3
	F	2	4:18	10:43	16:59	22:59	E	S	2	4:22	10:54	17:00	23:04		W	2	5:05	11:36	17:26	23:50
			3.5	13.9	3.8	14.2				2.8	14.5	3.7	14.7				2.0	15.0	2.6	15.3
	S	3	5:05	11:29	17:39	23:41		M	3	5:05	11:35	17:34	23:45		Th	3	5:47	12:18	18:05	
E			2.7	14.7	3.2	15.0				2.1	15.1	3.0	15.3				1.4	15.4	1.9	
	S	4	5:45	12:10	18:14			Tu	4	5:43	12:13	18:05		○	F	4	6:31	6:27	12:56	18:44
			1.8	15.3	2.6					1.5	15.5	2.4				15.7	1.0	15.7	1.2	
	M	5	6:18	6:19	12:45	18:42	○	W	5	6:22	6:18	12:49	18:36		S	5	1:12	7:06	13:31	19:28
			15.7	1.0	15.9	2.1				15.8	0.9	15.9	1.8			16.0	1.0	15.8	0.7	
○	Tu	6	6:56	6:51	13:20	19:09		Th	6	6:57	6:55	13:21	19:07	S	S	6	1:59	7:48	14:10	20:10
			16.2	0.5	16.2	1.7				16.1	0.4	16.0	1.3			16.0	1.1	15.7	0.5	
	W	7	1:26	7:25	13:54	19:35		F	7	1:31	7:30	13:56	19:41		M	7	2:44	8:30	14:53	20:56
			16.4	0.1	16.3	1.4				16.2	0.4	15.8	0.9			15.9	1.5	15.5	0.5	
	Th	8	1:57	7:58	14:24	20:05		S	8	2:11	8:07	14:30	20:20		Tu	8	3:31	9:15	15:39	21:46
S			16.3	-0.1	16.0	1.1				16.1	0.7	15.5	0.8			15.6	2.0	15.1	0.6	
	F	9	2:30	8:32	14:56	20:39	S	S	9	2:52	8:46	15:09	21:04		W	9	4:21	10:04	16:30	22:40
			16.0	0.2	15.6	1.2				15.7	1.2	15.0	1.0			15.2	2.5	14.6	1.3	
	S	10	3:06	9:08	15:30	21:18		M	10	3:40	9:29	15:49	21:51		Th	10	5:20	10:59	17:31	23:29
			15.6	0.8	15.0	1.3				15.3	1.9	14.4	1.5			14.8	3.1	14.3	1.7	
S	S	11	3:47	9:46	16:11	21:59		Tu	11	4:33	10:15	16:39	22:46	○	F	11	6:21	12:00	18:31	
			15.0	1.5	14.3	1.7				14.6	2.7	13.7	2.1			14.5	3.6	14.1		
	M	12	4:38	10:36	16:55	22:51	○	W	12	5:31	11:10	17:41	23:50	E	S	12	6:42	7:25	13:09	19:40
			14.3	2.5	13.5	2.4				14.0	3.6	13.3	2.6			2.0	14.3	3.8	14.5	
	Tu	13	5:39	11:25	17:55	23:57		Th	13	6:40	12:19	18:54			S	13	1:46	8:29	14:20	20:45
○			13.6	3.5	12.7	3.1				13.7	4.2	13.2				2.2	14.5	3.6	14.7	
	W	14	6:53	12:35	19:13			F	14	1:01	7:53	13:35	20:09		M	14	2:50	9:27	15:25	21:40
			13.0	4.3	12.6					2.9	13.7	4.3	13.8			2.0	14.8	3.1	13.2	
	Th	15	1:15	8:12	13:57	20:35		S	15	2:14	8:59	14:50	21:15		Tu	15	3:50	10:20	16:24	22:42
			3.6	13.1	4.5	13.2				2.7	14.2	3.8	14.6			1.7	15.4	2.4	15.7	
P	F	16	2:37	9:25	15:16	21:42	E	S	16	3:20	9:56	15:56	22:14		W	16	4:45	11:15	17:16	23:35
			3.2	13.8	4.0	14.4	P			2.0	15.0	2.9	15.5			1.2	16.0	1.7	16.2	
	S	17	3:46	10:24	16:21	22:41		M	17	4:18	10:49	16:48	23:06	●	Th	17	5:35	12:02	18:04	
			2.2	14.9	2.9	15.6				1.2	15.9	1.9	16.4			0.8	16.6	1.0		
	S	18	4:44	11:16	17:13	23:32		Tu	18	5:09	11:38	17:36	23:55		F	18	6:24	6:23	12:49	18:40
●			1.1	16.1	1.7	16.9				0.4	16.7	1.0	17.1			16.5	0.6	16.9	0.5	
	M	19	5:35	12:02	18:00		●	W	19	5:56	12:21	18:21		N	S	19	1:11	7:09	13:32	19:35
			-0.1	17.1	0.6					-0.2	17.3	0.3				16.7	0.7	16.9	0.5	
	Tu	20	0:19	6:21	12:47	18:43		Th	20	0:42	6:41	13:06	19:05		S	20	1:56	7:51	14:15	20:44
			17.8	-1.0	17.8	-0.2				17.5	-0.5	17.6	0.0			16.6	1.0	16.6	0.5	
N	W	21	1:03	7:04	13:30	19:25		F	21	1:29	7:25	13:50	19:48		M	21	2:43	8:34	14:58	20:56
			18.4	-1.5	18.1	-0.5				17.5	-0.4	17.4	0.0			16.3	1.5	16.1	0.7	
	Th	22	1:47	7:46	14:11	20:06	N	S	22	2:12	8:09	14:34	20:31		Tu	22	3:27	9:18	15:41	21:40
			18.3	-1.4	18.0	-0.5				17.2	0.0	17.0	0.2			15.8	2.1	15.5	1.1	
	F	23	2:30	8:30	14:55	20:50		S	23	3:00	8:53	15:19	21:16		W	23	4:15	10:00	16:24	22:41
D			17.9	-0.9	17.4	0.0				16.6	0.8	16.2	0.8			15.3	2.8	14.7	1.7	
	S	24	3:15	9:13	15:40	21:35		M	24	3:47	9:39	16:04	22:01		Th	24	5:04	10:44	17:09	23:30
			17.1	0.0	16.4	0.8				15.8	1.8	15.3	1.5			14.7	3.5	14.0	2.3	
	S	25	4:04	10:00	16:28	22:21		Tu	25	4:39	10:27	16:54	22:51	A	F	25	5:54	11:30	17:58	23:59
			16.0	1.3	15.3	1.7				15.0	2.8	14.8	2.2			14.1	4.2	13.4	2.7	
A	M	26	4:58	10:50	17:21	23:15		W	26	5:32	11:21	17:49	23:46	E	S	26	6:46	12:20	18:50	
			15.0	2.5	14.2	2.7				14.3	3.7	13.6	3.0			13.7	4.7	13.1		
	Tu	27	5:56	11:49	18:23		D	Th	27	6:31	12:20	18:46			S	27	0:51	7:40	13:15	19:44
			14.0	3.7	13.3					13.7	4.6	13.1				8.1	13.3	5.0	13.0	
	W	28	0:18	7:03	12:59	19:30	A	F	28	0:44	7:31	13:23	19:46		M	28	1:46	8:35	14:11	20:41
A			3.5	13.3	4.6	12.9				3.5	13.4	5.0	13.0			3.8	13.2	4.9	13.2	
	Th	29	1:26	8:10	14:15	20:33		S	29	1:43	8:29	14:27	20:43		Tu	29	2:42	9:28	15:09	20:59
			4.0	13.1	4.9	12.9				3.7	13.3	5.0	13.2			3.3	13.4	4.5	13.6	
	F	30	2:38	9:11	15:25	21:29	E	S	30	2:41	9:23	15:21	21:35		W	30	3:39	10:17	16:03	22:32
			4.0	13.3	4.7	13.3				3.5	13.6	4.7	13.6			3.0	13.8	3.8	14.2	
							M	31	3:33	10:11	16:08	22:22								
									3.0	14.0	4.2	14.2								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.5 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.				
Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.		Moon.	Day of—		Time and Height of High and Low Water.	
	W.	Mo.				W.	Mo.				W.	Mo.		
U	Th	1	4:29 2.5	11:06 14.4	16:51 2.9	23:22 14.8	○ S	1	5:46 2.1	12:11 15.8	18:10 0.8	P W	1	1:10 17.3
	F	2	5:19 2.1	11:50 15.0	17:40 2.0	...	M	2	0:44 16.1	6:33 1.5	12:56 16.7	E Th	2	1:52 17.8
	S	3	0:11 15.4	6:04 1.7	12:31 15.6	18:28 1.0	Tu	3	1:30 16.8	7:18 1.0	13:40 17.2	F	3	2:35 17.9
	S	4	0:59 16.0	6:49 1.4	13:14 16.1	19:11 0.4	P W	4	2:15 17.1	8:01 0.7	14:24 17.5	S	4	3:20 17.5
	M	5	1:44 16.3	7:31 1.3	13:55 16.3	19:59 -0.1	Th	5	3:00 17.2	8:45 0.7	15:09 17.4	S	5	4:05 16.7
P	Tu	6	2:31 16.4	8:16 1.3	14:40 16.4	20:46 -0.2	E F	6	3:45 16.9	9:30 1.0	15:56 16.9	☾ M	6	4:55 15.7
	W	7	3:20 16.3	9:03 1.5	15:26 16.1	21:35 -0.1	S	7	4:34 16.3	10:19 1.5	16:46 16.1	Tu	7	5:50 14.6
	Th	8	4:10 16.0	9:50 1.9	16:16 15.8	22:26 0.2	☾ S	8	5:27 15.6	11:11 2.2	17:40 15.3	N W	8	0:18 2.7
	F	9	5:01 15.6	10:41 2.3	17:09 15.3	23:20 0.8	M	9	6:21 14.8	12:09 3.0	18:41 14.5	Th	9	1:30 3.7
	☾ S	10	5:57 15.1	11:37 2.9	18:06 14.8	...	Tu	10	0:48 2.3	7:26 14.1	13:16 3.6	F	10	2:48 4.0
E	S	11	0:17 1.4	6:54 14.7	12:39 3.3	19:10 14.5	W	11	1:52 2.9	8:31 13.9	14:30 3.8	S	11	4:02 3.7
	M	12	1:18 2.0	7:56 14.4	13:46 3.5	20:16 14.5	N Th	12	3:04 3.3	9:36 14.0	15:41 3.5	S	12	5:00 3.2
	Tu	13	2:20 2.3	8:58 14.4	14:56 3.4	21:21 14.6	F	13	4:11 3.1	10:34 14.5	16:45 2.8	M	13	5:47 2.6
	W	14	3:24 2.4	9:57 14.7	16:03 3.0	22:21 14.9	S	14	5:11 2.7	11:26 15.2	17:35 2.1	☾ Tu	14	0:18 15.6
	Th	15	4:25 2.2	10:54 15.2	17:00 2.4	23:18 15.3	● S	15	6:00 2.2	12:13 15.8	18:19 1.4	W	15	0:58 16.2
N	F	16	5:21 1.8	11:44 15.8	17:49 1.7	...	M	16	0:39 15.8	6:43 1.9	12:55 16.3	E Th	16	1:34 16.4
	● S	17	0:09 15.8	6:11 1.6	12:31 16.2	18:35 1.1	Tu	17	1:22 16.2	7:21 1.7	13:35 16.5	F	17	2:08 16.3
	S	18	0:56 16.1	6:56 1.5	13:16 16.5	19:16 0.7	W	18	2:01 16.3	7:55 1.7	14:11 16.5	S	18	2:40 16.0
	M	19	1:41 16.2	7:39 1.5	13:56 16.5	19:56 0.5	Th	19	2:38 16.2	8:25 1.9	14:43 16.1	S	19	3:10 15.5
	Tu	20	2:23 16.2	8:16 1.7	14:36 16.3	20:35 0.5	F	20	3:14 15.9	8:55 2.2	15:15 15.6	M	20	3:44 14.8
A	W	21	3:05 16.0	8:54 2.1	15:14 15.8	21:14 0.7	S	21	3:50 15.3	9:25 2.4	15:49 15.0	Tu	21	4:20 14.0
	Th	22	3:46 15.6	9:29 2.5	15:51 15.2	21:51 1.0	S	22	4:25 14.7	9:58 2.3	16:21 14.2	☾ W	22	5:04 13.2
	F	23	4:29 15.1	10:06 3.1	16:28 14.4	22:31 1.5	M	23	5:04 13.9	10:31 3.1	17:03 13.6	S Th	23	5:57 12.4
	S	24	5:11 14.4	10:41 3.6	17:08 13.8	23:15 2.0	☾ Tu	24	5:49 13.1	11:15 3.6	17:53 13.0	F	24	0:28 4.3
	☾ S	25	5:54 13.8	11:20 4.0	17:51 13.2	...	W	25	0:04 3.2	6:44 12.5	12:15 4.0	S	25	1:48 4.7
D	M	26	0:01 2.6	6:46 13.2	12:07 4.4	18:45 12.3	Th	26	1:06 3.9	7:50 12.2	13:30 4.3	S	26	3:10 4.2
	Tu	27	0:54 3.1	7:42 12.8	13:05 4.6	19:47 12.7	S F	27	2:20 4.2	9:01 12.7	14:51 4.0	M	27	4:12 3.8
	W	28	1:53 3.5	8:39 12.8	14:11 4.5	20:56 13.0	S	28	3:32 3.9	10:06 13.7	16:01 3.0	Tu	28	5:10 2.1
	Th	29	2:57 3.5	9:40 13.2	15:22 4.0	22:04 13.7	S	29	4:36 3.1	11:00 15.0	17:01 1.8	○ W	29	0:02 16.8
	S F	30	3:59 3.3	10:33 13.9	16:24 3.0	23:00 14.5	M	30	5:30 2.2	11:51 16.2	17:53 0.5	☾ Th	30	0:45 17.2
S	S	31	4:55 2.7	11:24 14.9	17:20 1.9	23:54 15.3	○ Tu	31	0:25 16.5	6:17 1.2	12:38 17.3

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.					W.	Mo.					W.	Mo.				
N C	F	1	1:28 18.2	7:20 —0.5	13:44 18.7	19:45 —1.9	M	1	2:30 17.6	8:27 —0.4	14:52 17.4	20:50 —0.2	W	1	2:57 16.8	9:00 0.2	15:25 16.3	21:25 —1.1
	S	2	2:10 18.2	8:04 —0.7	14:26 18.4	20:30 —1.5	Tu	2	3:14 16.8	9:10 0.3	15:42 16.4	21:40 0.9	Th	2	3:43 15.9	9:42 0.9	16:16 15.6	22:05 —1.2
	S	3	2:52 17.7	8:47 —0.3	15:10 17.6	21:12 —0.7	W	3	4:02 15.7	10:00 1.2	16:32 15.3	22:27 2.2	F	3	4:35 15.0	10:32 1.7	17:10 14.8	22:39 —1.3
	M	4	3:39 16.8	9:32 0.5	15:58 16.5	22:00 0.5	Th	4	4:56 14.6	10:55 2.2	17:38 14.3	23:30 3.4	S	4	5:26 14.0	11:26 2.5	18:08 14.0	23:55 —1.4
	Tu	5	4:27 15.6	10:20 1.5	16:52 15.3	22:51 1.8	F	5	6:00 13.7	11:58 3.1	18:40 13.6	...	S	5	6:25 13.5	12:25 3.1	19:08 13.6	...
	W	6	5:23 14.4	11:18 2.6	17:55 14.2	23:50 3.2	S	6	6:36 12.7	7:06 13.2	13:05 3.7	19:48 13.3	M	6	1:02 4.8	7:24 13.2	13:24 3.5	23:58 13.4
	Th	7	6:28 13.5	12:23 3.6	19:06 13.4	...	S	7	1:54 4.8	8:10 13.1	14:14 3.8	20:50 13.4	Tu	7	2:06 5.0	8:22 13.2	14:24 3.5	24:05 13.4
	F	8	1:05 4.2	7:40 13.1	13:42 4.0	20:18 13.2	M	8	3:08 4.6	9:10 13.4	15:15 3.4	21:48 13.8	W	8	3:05 4.9	9:17 13.4	15:18 3.3	24:15 13.4
	S	9	2:30 4.5	8:45 13.1	14:57 3.8	21:25 13.5	Tu	9	4:02 4.2	10:00 14.0	16:08 2.8	22:35 14.4	Th	9	3:58 4.4	10:07 13.9	16:06 2.8	24:25 13.4
	S	10	3:42 4.2	9:47 13.7	15:58 3.2	22:24 14.1	W	10	4:48 3.6	10:45 14.6	16:50 2.1	23:20 15.0	F	10	4:40 3.8	10:54 14.5	16:52 2.4	24:35 14.1
	M	11	4:38 3.6	10:36 14.8	16:48 2.4	23:10 14.8	Th	11	5:22 3.1	11:30 15.2	17:28 1.6	23:56 15.4	S	11	5:16 3.1	11:37 15.0	17:35 1.8	...
	Tu	12	5:22 3.0	11:23 15.1	17:30 1.7	23:50 15.5	F	12	5:54 2.5	12:07 15.7	18:06 1.1	...	S	12	0:04 15.2	5:55 2.3	12:18 15.4	...
E A	W	13	5:58 2.5	12:04 15.8	18:04 1.1	...	S	13	0:34 16.8	6:24 2.0	12:42 16.0	18:40 0.7	M	13	0:40 15.5	6:30 1.5	12:38 15.8	...
	Th	14	0:30 16.0	6:30 2.1	12:38 16.2	18:38 0.6	S	14	1:07 15.9	6:54 1.5	13:18 16.1	19:12 0.6	Tu	14	1:15 15.7	7:10 1.0	13:40 15.9	...
	F	15	1:05 16.2	6:55 1.7	13:12 16.4	19:10 0.3	M	15	1:38 15.7	7:26 1.1	13:54 15.9	19:48 0.9	W	15	1:52 15.8	7:50 0.5	14:20 15.9	...
	S	16	1:36 16.2	7:20 1.5	13:42 16.2	19:42 0.1	Tu	16	2:10 15.4	8:02 1.0	14:32 15.5	20:28 1.4	Th	16	2:32 15.5	8:35 0.5	15:08 15.8	...
	S	17	2:05 15.9	7:49 1.3	14:15 16.0	20:14 0.5	W	17	2:47 14.9	8:42 1.0	15:16 15.2	21:03 2.0	F	17	3:14 15.3	9:22 0.6	15:56 15.3	...
	M	18	2:37 15.4	8:20 1.3	14:50 15.5	20:48 1.0	Th	18	3:24 14.4	9:27 1.4	16:05 14.6	21:48 2.7	S	18	4:00 14.8	10:10 1.0	16:47 14.9	...
	Tu	19	3:10 14.8	8:55 1.5	15:28 14.8	21:25 1.8	F	19	4:10 13.7	10:18 1.9	17:04 14.0	22:38 3.5	S	19	4:54 14.4	11:05 1.5	17:46 14.4	...
	W	20	3:47 14.1	9:35 1.8	16:15 14.2	22:04 2.6	S	20	5:05 13.2	11:18 2.5	18:06 13.5	23:38 4.1	M	20	5:54 14.1	12:05 1.9	18:47 14.1	...
	Th	21	4:27 13.4	10:25 2.4	17:13 13.5	22:54 3.5	S	21	6:15 13.0	12:26 2.9	19:18 13.4	...	Tu	21	0:25 3.8	7:00 14.0	13:10 2.2	19:44 14.1
	F	22	5:20 12.6	11:25 3.1	18:24 12.9	...	M	22	0:55 4.5	7:30 13.4	13:38 2.8	20:28 13.8	W	22	1:35 3.9	8:06 14.1	14:15 2.3	20:57 14.2
	S	23	0:00 4.4	6:38 12.3	12:42 3.6	19:42 12.9	Tu	23	2:12 4.2	8:42 14.2	14:48 2.4	21:28 14.5	Th	23	2:46 3.6	9:15 14.7	15:19 2.1	21:58 14.9
	S	24	1:22 4.7	8:00 12.9	14:05 3.5	20:55 13.5	W	24	3:20 3.4	9:45 15.1	15:48 1.6	22:20 15.4	F	24	3:52 2.9	10:15 15.3	16:20 1.6	22:48 15.4
E P O	M	25	2:44 4.3	9:10 13.9	15:17 2.5	21:58 14.5	Th	25	4:18 2.4	10:40 16.0	16:44 0.7	23:12 16.3	S	25	4:50 2.0	11:10 15.9	17:14 1.1	23:58 16.3
	Tu	26	3:52 3.4	10:10 15.3	16:17 1.3	22:50 15.7	F	26	5:10 1.3	11:30 16.9	17:32 0.0	...	S	26	5:42 1.2	12:02 16.5	18:04 0.7	...
	W	27	4:45 2.1	11:05 16.5	17:10 0.2	23:36 16.8	S	27	0:00 17.1	5:57 0.4	12:20 17.5	18:19 —0.5	M	27	0:26 16.9	6:30 0.5	12:50 16.9	...
	Th	28	5:34 1.0	11:58 17.5	17:56 —0.8	...	S	28	0:44 17.6	6:42 —0.2	13:05 17.7	19:04 —0.5	Tu	28	1:14 17.3	7:14 0.1	13:38 17.0	...
	F	29	0:20 17.7	6:18 0.0	12:38 18.2	18:40 —1.3	M	29	1:27 17.7	7:26 —0.4	13:50 17.5	19:47 —0.2	W	29	1:56 17.2	7:58 —0.1	14:25 16.8	...
	S	30	1:05 18.1	7:00 —0.6	13:20 18.3	19:22 —1.5	Tu	30	2:11 17.4	8:10 —0.3	14:36 17.0	20:32 0.4	Th	30	2:40 16.9	8:40 0.0	15:08 16.5	...
	S	31	1:47 18.1	7:43 —0.7	14:08 18.1	20:05 —1.0							F	31	3:22 16.3	9:24 0.4	15:54 15.9	...

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.					FEBRUARY.					MARCH.							
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.				Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			
	F 1	3:31	9:06	16:03	21:50		M 1	5:16	10:53	17:46	23:35	N	M 1	3:46	9:18	16:20	21:56
	S 2	3.6	18.4	2.0	18.1		Tu 2	8.5	17.5	2.6	17.4		Tu 2	3.8	17.3	8.5	16.7
	S 3	4:38	10:15	17:06	22:54	N	W 3	6:20	12:04	18:47	24:35		W 3	4:53	10:31	17:27	23:11
	M 4	3.3	18.2	1.9	18.1		Th 4	2.9	17.6	2.4	17.5		Th 4	3.7	16.9	3.4	16.6
	Tu 5	5:40	11:17	18:06	23:56		F 5	0:38	7:17	13:05	19:41		F 5	5:59	11:45	18:30	24:00
	W 6	2.9	18.3	1.7	18.3		S 6	17.6	2.2	17.9	2.1		S 6	3.2	17.0	8.0	16.8
	Th 7	6:38	12:19	19:02	24:58		M 8	1:30	8:09	13:57	20:29		M 8	0:18	7:00	12:49	19:24
	F 8	2.3	18.5	1.5	18.3		Tu 9	18.1	1.6	18.2	2.0		Tu 9	17.0	2.5	17.4	2.6
N	W 9	0:54	7:32	13:06	19:55	O	W 10	2:15	8:51	14:40	21:11		W 10	1:12	7:47	13:39	20:11
	Th 10	18.6	1.8	18.8	1.4		Th 11	18.4	1.4	18.5	2.1		Th 11	17.5	1.9	17.9	2.3
	F 11	1:43	8:21	14:06	20:44		F 12	2:51	9:31	15:15	21:49		F 12	1:55	8:31	14:20	20:51
	S 12	18.9	1.4	18.9	1.5		M 13	18.7	1.3	18.6	2.3		M 13	18.1	1.4	18.2	2.2
	M 13	2:26	9:07	14:50	21:28		Tu 14	3:23	10:08	15:46	22:21	O	Tu 14	2:31	9:10	14:52	21:27
	Tu 14	19.0	1.3	19.0	1.7		W 15	18.9	1.3	18.7	2.8	A	W 15	18.5	1.2	18.5	2.4
	W 15	3:05	9:48	15:28	22:06	A	Th 16	3:55	10:40	16:16	22:49		Th 16	3:00	9:44	15:21	21:56
	Th 16	19.0	1.3	18.9	2.3		F 17	19.1	1.5	18.8	3.2		F 17	18.9	1.3	18.7	2.6
	F 17	3:41	10:27	16:08	22:43		M 18	4:26	11:08	16:50	23:17	E	M 18	3:29	10:12	15:50	22:21
	S 18	19.0	1.5	18.8	2.8		Tu 19	19.3	1.8	18.8	3.4		Tu 19	19.3	1.5	18.9	2.9
	M 19	4:16	11:03	16:43	23:18		W 20	5:00	11:40	17:25	23:44		W 20	4:00	10:39	16:20	22:45
A	Tu 20	19.0	1.9	18.6	3.4		Th 21	19.5	2.0	18.9	3.6		Th 21	19.6	1.7	19.1	3.0
	W 21	4:51	11:39	17:20	23:51		F 22	5:39	12:10	18:05	24:11		F 22	4:33	11:15	16:54	23:10
	Th 22	18.9	2.6	18.5	3.8		M 23	19.5	2.3	18.9	3.9		M 23	19.9	2.0	19.2	3.1
	F 23	5:30	12:16	18:00	24:40		Tu 24	0:15	6:24	12:50	18:50		Tu 24	5:10	11:35	17:32	23:40
E	S 24	18.8	2.4	18.4	4.0		W 25	3.7	19.4	2.6	18.7		W 25	20.0	2.3	19.2	3.1
	Th 25	0:28	6:13	12:55	18:43	C	Th 26	1:00	7:09	13:36	19:40		Th 26	5:50	12:11	18:15	22:11
	F 26	4.2	18.7	2.7	18.2		M 27	3.9	19.1	3.1	18.3		M 27	19.8	2.6	19.0	3.0
C	S 27	1:09	6:59	13:40	19:31		Tu 28	1:51	8:01	14:33	20:35		Tu 28	0:20	6:37	12:55	19:04
	M 28	4.5	18.5	3.0	18.0		W 29	4.2	18.7	3.6	18.0		W 29	3.3	19.4	3.2	18.6
	Tu 29	1:57	7:48	14:30	20:24		Th 30	2:59	9:01	15:43	21:36	C	Th 30	1:12	7:31	13:56	20:00
	W 30	4.7	18.3	3.3	17.8		F 31	4.3	18.3	3.8	17.9		F 31	3.7	18.8	3.8	18.1
	Th 31	2:54	8:42	15:30	21:20		M 1	4:18	10:06	16:56	22:42	S	M 1	2:18	8:31	15:07	21:03
	F 1	4.8	18.2	3.4	17.7		Tu 2	4.0	18.2	3.7	18.1		Tu 2	4.0	18.3	4.3	17.9
	S 2	3:56	9:42	16:33	22:18		W 3	5:30	11:15	18:03	23:49		W 3	3:40	9:40	16:28	22:11
	M 3	4.5	18.1	3.3	17.9		Th 4	3.2	18.5	3.0	18.7		Th 4	3.9	18.0	4.1	18.0
	Tu 4	5:01	10:43	17:33	23:20		F 5	6:36	12:20	19:05	24:40		F 5	5:01	10:50	17:40	23:20
	W 5	4.0	18.3	3.1	18.3		M 6	2.2	19.1	2.1	18.9		M 6	3.2	18.3	3.4	18.6
	Th 6	6:05	11:45	18:32	24:11		Tu 7	0:48	7:34	13:20	20:00		Tu 7	6:11	11:58	18:43	23:11
S	F 7	3.2	18.7	2.5	18.2		W 8	19.6	1.0	20.0	1.3		W 8	2.0	19.0	2.3	18.7
	S 8	0:16	7:02	12:44	19:26	P	Th 9	1:42	8:25	14:11	20:48		Th 9	0:25	7:10	12:59	19:37
	M 9	18.9	2.2	19.3	2.0		F 10	20.5	—0.1	20.8	0.5		F 10	19.6	0.6	20.1	1.1
	Tu 10	1:11	7:53	13:40	20:17		M 11	2:32	9:12	15:00	21:34	P	M 11	1:21	8:02	13:51	20:26
	W 11	19.6	1.3	19.9	1.4		Tu 12	21.4	—0.9	21.3	0.1		Tu 12	20.7	—0.5	20.9	0.3
●	Th 12	2:01	8:43	14:30	21:05		W 13	3:19	9:58	15:46	22:17	E	W 13	2:11	8:50	14:40	21:12
	F 13	20.3	0.5	20.5	1.1		Th 14	21.9	—1.3	21.6	0.1		Th 14	21.6	—1.3	21.6	—0.3
P	S 14	2:49	9:30	15:19	21:50		F 15	4:04	10:43	16:30	23:00		F 15	2:59	9:36	15:24	21:56
	M 15	21.0	—0.1	20.9	0.9	E	M 16	22.1	—1.3	21.6	0.4		M 16	22.2	—1.6	21.9	—0.4
	Tu 16	3:35	10:16	16:05	22:35		W 17	4:50	11:27	17:15	23:45		W 17	3:44	10:20	16:08	22:38
	W 17	21.3	—0.5	21.0	1.0		Th 18	22.0	—0.8	21.1	1.0		Th 18	22.4	—1.4	21.7	—0.1
	Th 18	4:20	11:00	16:50	23:20		F 19	5:33	12:15	18:01	24:40		F 19	4:27	11:06	16:50	23:24
	F 19	21.4	—0.4	20.9	1.2		M 20	21.4	0.0	20.3	1.1		M 20	22.1	—0.8	21.2	0.6
	S 20	5:06	11:48	17:36	24:11		Tu 21	0:35	6:20	13:06	18:51		Tu 21	5:11	11:50	17:35	23:11
	M 21	21.2	—0.1	20.6	1.1		W 22	1.8	20.6	1.0	19.4		W 22	21.4	0.1	20.4	1.1
	Tu 22	0:09	5:54	12:38	18:27	D	Th 23	1:30	7:12	14:04	19:45		Th 23	0:11	5:59	12:42	18:25
	W 23	1.7	20.8	0.4	20.0		F 24	2.6	19.5	2.1	18.3		F 24	1.6	20.5	1.4	19.3
D	Th 24	1:00	6:45	13:31	19:19		M 25	2:32	8:11	15:10	20:47	D	M 25	1:04	6:50	13:40	19:16
	F 25	2.4	20.1	1.1	19.2		Tu 26	3.4	18.3	3.0	17.3	N	Tu 26	2.4	19.3	2.6	18.2
	S 26	1:59	7:37	14:31	20:15		W 27						W 27	2:06	7:47	14:44	20:17
	M 27	3.0	19.3	1.9	18.4		Th 28						Th 28	3.3	18.1	8.5	17.2
	Tu 28	3:00	8:37	15:36	21:19		F 29						F 29	3:14	8:52	15:54	21:25
	W 29	3.5	18.5	2.5	17.7		M 30						M 30	3.8	17.2	4.0	16.5
	Th 30	4:10	9:43	16:41	22:25		Tu 31						Tu 31	4:25	10:05	17:01	22:39
	F 31	3.7	17.8	2.7	17.3		W 1						W 1	3.7	16.7	4.0	16.4

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
A E O	Th	1	5:29	11:17	18:03	23:46				S	1	5:48	11:38	18:20	23:54				Tu	1	6:38	12:20	19:04						
			3.1	16.8	3.5	16.7						2.5	17.2	3.4	17.3						2.1	18.0	3.0						
	F	2	6:27	12:20	18:57				E	S	2	6:38	12:29	19:06				W	2	0:35	7:22	13:01	19:44						
			2.5	17.3	3.0							2.1	17.7	3.0						18.4	2.0	18.5							
	S	3	0:40	7:17	13:09	19:43				M	3	0:40	7:21	13:08	19:47				Th	3	1:19	8:04	13:43	19:57					
			17.3	1.9	17.8	2.6						17.9	1.7	18.1	2.7					18.9	2.0	18.8							
	S	4	1:24	8:00	13:50	20:23				Tu	4	1:20	8:02	13:44	20:23				O	F	4	2:00	8:43	14:21	20:01				
			18.0	1.4	18.2	2.4						18.5	1.5	18.5	2.6						19.2	2.1	19.2						
	M	5	2:00	8:39	14:21	20:57				O	W	5	1:56	8:40	14:18	20:57				S	5	2:42	9:20	15:00	20:28				
			18.5	1.3	18.5	2.3						18.9	1.7	18.8	2.5						19.5	2.3	19.5						
Tu	6	2:31	9:12	14:50	21:28				Th	6	2:32	9:12	14:50	21:26				S	S	6	3:24	9:58	15:40	21:59					
		19.0	1.3	18.7	2.5						19.3	1.8	19.1	2.5						19.7	2.5	19.7							
W	7	3:01	9:42	15:19	21:54				F	7	3:06	9:48	15:25	21:57				M	7	4:08	10:36	16:24	22:00						
		19.4	1.6	19.0	2.7						19.6	2.1	19.3	2.4						19.7	2.7	19.8							
Th	8	3:32	10:10	15:50	22:18				S	8	3:45	10:15	16:00	22:29				Tu	8	4:55	11:20	17:10	22:08						
		19.7	1.9	19.3	2.7						19.8	2.4	19.5	2.5						19.6	3.1	19.6							
F	9	4:06	10:37	16:25	22:45				S	S	9	4:25	10:50	16:41	23:06				W	9	5:44	12:10	18:01						
		20.0	2.1	19.4	2.7						19.8	2.7	19.5	2.5						19.4	3.4	19.4							
S	10	4:44	11:08	17:04	23:19				M	10	5:09	11:30	17:27	23:53				Th	10	0:41	6:38	13:08	18:55						
		20.0	2.5	19.4	2.8						19.6	3.2	19.3	2.6						2.1	19.0	3.7	19.0						
S	11	5:27	11:45	17:47					Tu	11	5:58	12:18	18:17					C	F	11	1:41	7:35	14:10	19:35					
		19.8	2.9	19.2							19.2	3.6	18.9							2.2	18.7	3.8	18.7						
M	12	0:00	6:15	12:33	18:37				C	W	12	0:48	6:52	13:19	19:13			E	S	12	2:46	8:36	15:17	20:07					
		3.0	19.4	8.4	18.3						2.9	18.8	4.1	18.6						2.2	18.5	8.8	18.5						
C	Tu	13	0:54	7:09	13:30	19:34			Th	13	1:54	7:53	14:30	20:15				S	13	3:50	9:38	16:24	21:07						
		3.3	18.8	4.0	18.3						3.0	18.4	4.3	18.3						2.0	18.5	3.3	18.5						
W	14	2:01	8:10	14:46	20:37				F	14	3:05	8:58	15:43	21:21				M	14	4:55	10:40	17:27	22:00						
		3.6	18.3	4.5	18.0						2.8	18.3	4.1	18.4						1.6	18.8	2.7	19.0						
Th	15	3:21	9:18	16:06	21:45				S	15	4:16	10:05	16:53	22:29				Tu	15	5:55	11:40	18:25							
		3.4	18.1	4.2	18.1						2.3	18.5	3.3	18.7						1.2	19.1	2.0							
F	16	4:39	10:28	17:18	22:55				E	S	16	5:21	11:08	17:54	23:31			W	16	0:04	6:50	12:37	19:35						
		2.8	18.4	3.4	18.7				P		1.5	19.1	2.4	19.4						19.4	0.8	19.5							
S	17	5:47	11:35	18:20	23:59				M	17	6:20	12:08	18:49					Th	17	1:00	7:43	13:29	20:20						
		1.7	19.1	2.2	19.6						0.6	19.8	1.4							19.7	0.6	19.8							
S	18	6:46	12:34	19:13					Tu	18	0:30	7:13	13:00	19:40				F	18	1:53	8:33	14:17	21:00						
		0.5	20.0	1.2							20.2	0.0	20.3	0.7						19.9	0.7	19.9							
M	19	0:56	7:39	13:26	20:04				W	19	1:23	8:04	13:50	20:30				N	S	19	2:41	9:21	15:01	21:46					
		20.8	—0.5	20.8	0.3						20.7	—0.4	20.8	0.3						19.9	1.0	19.8							
Tu	20	1:48	8:27	14:15	20:50				Th	20	2:12	8:53	14:36	21:16				S	20	3:28	10:07	15:45	22:39						
		21.4	—1.1	21.4	—0.2						21.0	—0.4	20.9	0.2						19.7	1.5	19.6							
W	21	2:36	9:13	15:00	21:35				F	21	3:00	9:39	15:21	22:01				M	21	4:11	10:51	16:27	23:15						
		21.9	—1.2	21.6	—0.3						21.0	0.0	20.6	0.4						19.4	2.1	19.3							
Th	22	3:21	9:58	15:44	22:20				N	S	22	3:45	10:25	16:05	22:48			Tu	22	4:55	11:35	17:09	23:59						
		22.0	—0.9	21.4	0.0						20.7	0.6	20.2	0.9						19.0	2.8	19.0							
F	23	4:06	10:48	16:27	23:05				S	23	4:30	11:11	16:49	23:35				W	23	5:40	12:20	17:54							
		21.6	—0.2	20.9	0.6						20.2	1.5	19.7	1.5						18.6	3.5	18.6							
S	24	4:50	11:30	17:11	23:52				M	24	5:17	12:00	17:35					Th	24	0:44	6:25	13:09	18:58						
		21.0	—0.8	20.1	1.5						19.5	2.4	19.0							2.3	18.2	4.0	18.2						
N	S	25	5:37	12:20	18:00				Tu	25	0:24	6:05	12:51	18:22				A	F	25	1:31	7:13	13:56	19:55					
		20.0	2.0	19.1							2.1	18.8	3.3	18.3						2.6	17.8	4.5	17.8						
M	26	0:40	6:28	13:16	18:50				W	26	1:16	6:57	13:46	19:14				E	S	26	2:22	8:04	14:49	20:57					
		2.3	19.0	3.0	18.2						2.6	18.0	4.0	17.7						2.9	17.5	4.7	17.5						
D	Tu	27	1:43	7:23	14:19	19:47			Th	27	2:11	7:52	14:45	20:09				S	27	3:15	8:56	15:43	21:50						
		3.0	18.0	3.9	17.3						3.0	17.4	4.5	17.3						3.1	17.4	4.7	17.6						
W	28	2:47	8:26	15:23	20:50				A	F	28	3:10	8:48	15:40	21:05			M	28	4:10	9:50	16:38	22:05						
		3.4	17.2	4.3	16.7						3.1	17.1	4.5	17.1						3.1	17.3	4.4	17.3						
Th	29	3:50	9:31	16:28	21:55				S	29	4:04	9:45	16:38	22:01				Tu	29	5:04	10:45	17:31	23:01						
		3.4	16.8	4.3	16.6						3.0	17.0	4.4	17.2						3.0	17.6	4.0	18.0						
A	F	30	4:51	10:38	17:27	22:59			E	S	30	4:59	10:41	17:30	22:56			W	30	5:55	11:37	18:24	23:58						
		3.1	16.9	3.9	16.8						2.7	17.2	4.0	17.5						2.8	17.9	3.5	18.3						
									M	31	5:50	11:32	18:20	23:48						2.5	17.6	3.5	17.9						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
MOON.	Day of—		Time and Height of High and Low Water.								MOON.	Day of—		Time and Height of High and Low Water.								MOON.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
α	Th	1	6:47 2.5	12:27 18.4	19:12 2.8					○	S	1	1:12 19.3	7:55 2.0	13:35 19.8	20:20 1.0	P	W	1	2:38 21.0	9:07 0.5	14:51 21.7	21:31 —1.0									
	F	2	0:48 18.8	7:35 2.3	13:14 18.9	19:59 2.2					M	2	2:04 19.9	8:42 1.6	14:24 20.4	21:07 0.4	E	Th	2	3:19 21.4	9:50 0.3	15:36 22.0	22:16 —1.0									
	S	3	1:38 19.2	8:20 2.2	14:00 19.4	20:43 1.7					Tu	3	2:52 20.5	9:27 1.4	15:10 20.9	21:51 0.0		F	3	4:02 21.5	10:34 0.5	16:20 22.0	23:00 —0.7									
	S	4	2:25 19.6	9:02 2.1	14:44 19.9	21:27 1.3				P	W	4	3:38 20.7	10:10 1.2	15:56 21.2	22:38 —0.2		S	4	4:46 21.2	11:19 1.0	17:05 21.6	23:47 0.0									
	M	5	3:10 19.9	9:45 2.1	15:28 20.2	22:10 1.0					Th	5	4:24 20.7	10:54 1.4	16:40 21.2	23:22 0.0		S	5	5:31 20.5	12:05 1.6	17:54 20.8										
P	Tu	6	3:56 20.0	10:29 2.2	16:12 20.4	22:55 0.9				E	F	6	5:10 20.6	11:40 1.7	17:27 21.0		☾	M	6	0:38 1.0	6:21 19.6	13:00 2.5	18:45 19.8									
	W	7	4:48 20.1	11:14 2.4	17:00 20.3	23:42 1.0					S	7	0:10 0.4	5:57 20.1	12:30 2.2	18:15 20.4		Tu	7	1:35 2.0	7:15 18.6	14:00 3.2	19:41 18.6									
	Th	8	5:31 19.9	12:01 2.6	17:47 20.1				☾	S	8	1:01 1.0	6:48 19.5	13:21 2.8	19:08 19.7		N	W	8	2:39 3.0	8:16 17.6	15:10 3.7	20:48 17.6									
	F	9	0:33 1.1	6:22 19.6	12:54 3.0	18:39 19.8					M	9	1:58 1.7	7:42 18.7	14:24 3.3	20:05 18.9		Th	9	3:50 3.5	9:25 16.9	16:22 3.7	22:00 17.1									
	☾	S	10	1:26 1.4	7:15 19.2	13:50 3.3	19:33 19.3				Tu	10	3:01 2.4	8:42 18.0	15:31 3.6	21:08 18.1		F	10	5:00 3.5	10:39 16.8	17:30 3.1	23:16 17.2									
E	S	11	2:25 1.8	8:12 18.7	14:53 3.4	20:31 18.9					W	11	4:06 2.8	9:48 17.5	16:41 3.5	22:17 17.6		S	11	6:01 3.0	11:49 17.1	18:30 2.4										
	M	12	3:28 2.0	9:12 18.4	15:00 3.4	21:35 18.6			N	Th	12	5:15 2.8	10:58 17.3	17:47 3.1	23:28 17.6		S	12	0:20 17.6	6:59 2.5	12:48 17.6	19:21 1.7										
	Tu	13	4:31 2.1	10:15 18.2	17:05 3.2	22:40 18.4					F	13	6:17 2.6	12:08 17.6	18:48 2.3		M	13	1:15 18.1	7:48 2.1	13:34 18.2	20:06 1.1										
	W	14	5:34 2.0	11:19 18.2	18:06 2.6	23:44 18.4					S	14	0:33 17.9	7:14 2.2	13:00 18.0	19:40 1.7	●	Tu	14	1:59 18.5	8:30 1.9	14:10 18.7	20:49 0.9									
	Th	15	6:34 1.7	12:20 18.4	19:05 2.0				●	S	15	1:29 18.3	8:05 2.0	13:50 18.4	20:28 1.3		W	15	2:34 18.7	9:09 2.1	14:44 19.0	21:24 1.0										
N	F	16	0:46 18.6	7:29 1.6	13:15 18.7	19:58 1.5					M	16	2:16 18.6	8:50 1.9	14:31 18.8	21:11 1.0	E	Th	16	3:04 18.8	9:40 2.4	15:13 19.3	21:56 1.4									
	●	S	17	1:41 18.9	8:20 1.5	14:05 19.0	20:48 1.2				Tu	17	2:55 18.7	9:31 2.1	15:07 19.0	21:50 1.0		F	17	3:31 18.8	10:09 2.8	15:42 19.4	22:24 1.8									
	S	18	2:31 19.0	9:09 1.6	14:50 19.1	21:32 1.0					W	18	3:30 18.7	10:07 2.5	15:40 19.2	22:25 1.3		S	18	4:00 18.9	10:31 3.1	16:14 19.6	22:51 2.2									
	M	19	3:14 19.0	9:52 1.9	15:30 19.1	22:14 1.2			A	Th	19	4:02 18.7	10:39 2.8	16:12 19.2	22:57 1.7		S	19	4:35 18.9	10:55 3.3	16:50 19.6	23:19 2.6										
	Tu	20	3:54 18.9	10:34 2.4	16:06 19.1	22:54 1.4			E	F	20	4:35 18.7	11:06 3.3	16:45 19.3	23:27 2.0		M	20	5:10 18.9	11:22 3.4	17:30 19.4	23:50 3.0										
A	W	21	4:31 18.8	11:11 3.0	16:43 19.0	23:30 1.7					S	21	5:09 18.7	11:36 3.6	17:22 19.3			Tu	21	5:52 18.7	12:00 3.6	18:15 19.1										
	Th	22	5:07 18.6	11:44 3.5	17:18 19.0						S	22	0:00 2.5	5:48 18.6	12:05 3.9	18:03 19.1	☾	W	22	0:34 3.5	6:40 18.3	12:48 3.8	19:16 18.6									
	F	23	0:05 2.1	5:47 18.4	12:20 3.9	17:59 18.8					M	23	0:38 2.9	6:30 18.4	12:45 4.1	18:49 18.8		Th	23	1:29 4.1	7:34 17.9	13:52 4.2	20:06 18.1									
	S	24	0:45 2.5	6:28 18.2	13:00 4.3	18:41 18.6				☾	Tu	24	1:21 3.4	7:19 18.0	13:35 4.4	19:40 18.4		F	24	2:41 4.6	8:35 17.7	15:18 4.1	21:11 17.9									
	☾	S	25	1:27 2.8	7:14 17.9	13:45 4.6	19:28 18.3				W	25	2:15 3.9	8:11 17.7	14:38 4.5	20:38 18.1		S	25	4:00 4.4	9:42 17.8	16:35 3.4	22:21 18.2									
D	M	26	2:15 3.4	8:04 17.7	14:35 4.7	20:21 18.1				S	Th	26	3:24 4.2	9:11 17.6	15:51 4.3	21:41 17.9		S	26	5:13 3.7	10:50 18.4	17:42 2.3	23:30 18.9									
	Tu	27	3:10 3.5	8:56 17.5	15:35 4.6	21:18 17.9					F	27	4:35 4.1	10:15 17.8	17:01 3.7	22:48 18.1		M	27	6:15 2.6	11:54 19.4	18:42 1.0										
	W	28	4:08 3.6	9:53 17.6	16:36 4.3	22:17 18.0					S	28	5:40 3.5	11:20 18.4	18:10 2.6	23:52 18.8		Tu	28	0:28 19.8	7:09 1.5	12:50 20.4	19:34 —0.2									
	Th	29	5:10 3.5	10:51 17.8	17:39 3.6	23:17 18.3					S	29	6:40 2.6	12:20 19.2	19:07 1.4		☾	W	29	1:21 20.8	7:59 0.5	13:41 21.4	20:22 —1.0									
	F	30	6:10 3.1	11:50 18.4	18:38 2.8						M	30	0:51 19.6	7:33 1.8	13:15 20.2	19:59 0.3		Th	30	2:10 21.5	8:44 —0.1	14:30 22.1	21:08 —1.4									
S	S	31	0:18 19.7	7:04 2.5	12:44 19.0	19:30 1.9			○	Tu	31	1:45 20.4	8:21 1.0	14:05 21.0	20:46 —0.5																	

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 10.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil: 0 is midnight, 12 is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.									
	W.	Mo.									W.	Mo.									W.	Mo.										
N C	F	1	2:55 21.8	9:28 —0.3	15:14 22.4	21:52 —1.3					M	1	4:00 21.2	10:38 0.3	16:24 21.2	23:02 0.5					W	1	4:25 20.2	11:09 0.9	16:53 19.9	23:25 19.4						
	S	2	3:39 21.8	10:11 —0.1	16:00 22.2	22:36 —0.8					N	Tu	2	4:45 20.4	11:26 1.0	17:11 20.3	23:53 1.7					Th	2	5:11 19.5	11:59 1.5	17:41 19.2	23:56 19.4					
	S	3	4:22 21.4	10:55 0.5	16:44 21.6	23:24 0.1					W	3	5:31 19.5	12:18 1.9	18:02 19.3						F	3	0:25 3.0	6:00 18.8	12:51 2.1	18:22 19.4						
	M	4	5:07 20.6	11:43 1.3	17:31 20.7						C	Th	4	0:49 2.8	6:24 18.5	13:16 2.7	18:59 18.3					C	S	4	1:20 3.7	6:50 18.1	13:47 2.7	19:22 19.5				
	Tu	5	0:14 1.3	5:55 19.6	12:38 2.2	18:23 19.5						F	5	1:51 3.7	7:21 17.5	14:20 3.1	20:00 17.4					S	5	2:20 4.2	7:45 17.4	14:46 2.9	20:17 19.2					
	W	6	1:11 2.5	6:48 18.4	13:39 3.1	19:20 18.3					S	6	2:58 4.2	8:25 16.9	15:26 3.2	21:10 16.9					M	6	3:20 4.5	8:42 17.1	15:44 3.0	21:29 19.4						
	Th	7	2:16 3.5	7:49 17.4	14:48 3.5	20:26 17.4					M	7	4:05 4.2	9:31 16.7	16:30 2.9	22:17 17.0					E	Tu	7	4:19 3.7	9:42 17.0	16:41 2.8	22:27 19.4					
	F	8	3:28 4.0	8:58 16.7	15:59 3.5	21:40 16.9						M	8	5:06 3.8	10:38 16.9	17:27 2.4	23:19 17.3					W	8	5:15 4.0	10:40 17.2	17:34 2.6	23:25 19.4					
	S	9	4:36 3.9	10:11 16.5	17:06 3.0	22:54 17.0					A	Tu	9	6:00 3.4	11:36 17.3	18:18 1.9						Th	9	6:06 3.7	11:33 17.6	18:24 2.3	24:00 19.4					
	S	10	5:39 3.5	11:20 16.9	18:03 2.3	23:58 17.5					E	W	10	0:10 17.7	6:48 2.8	12:23 17.9	19:04 1.5					F	10	0:06 17.7	6:51 3.2	12:21 18.0	23:56 19.4					
M	11	6:35 2.8	12:19 17.5	18:55 1.6							Th	11	0:52 18.2	7:30 2.5	13:04 18.4	19:45 1.4					S	11	0:50 18.1	7:34 2.8	13:06 18.4	23:56 19.4						
Tu	12	0:49 18.0	7:21 2.4	13:04 18.1	19:40 1.2						F	12	1:30 18.5	8:08 2.4	13:40 18.7	20:21 1.6					S	12	1:29 18.5	8:14 2.6	13:46 18.8	23:56 19.4						
W	13	1:30 18.4	8:04 2.1	13:41 18.6	20:20 1.0					●	S	13	2:01 18.6	8:41 2.5	14:14 19.1	20:56 1.9					M	13	2:07 18.8	8:50 2.4	14:26 19.1	24:00 19.4						
Th	14	2:04 18.7	8:40 2.1	14:14 18.9	20:55 1.2						S	14	2:33 18.9	9:12 2.5	14:48 19.3	21:27 2.3					S	Tu	14	2:44 19.2	9:25 2.2	15:05 19.3	24:00 19.4					
F	15	2:33 18.8	9:11 2.4	14:43 19.2	21:26 1.5						M	15	3:05 19.1	9:40 2.6	15:24 19.4	21:56 2.7					W	15	3:21 19.5	10:00 2.0	15:46 19.5	24:00 19.4						
S	16	3:01 18.8	9:39 2.7	15:14 19.4	21:54 2.0						Tu	16	3:39 19.2	10:09 2.6	16:01 19.5	22:25 3.1					Th	16	4:02 19.7	10:38 1.9	16:30 19.5	24:00 19.4						
S	17	3:30 19.0	10:02 2.9	15:45 19.6	22:18 2.5					S	W	17	4:13 19.3	10:41 2.6	16:43 19.4	23:00 3.4					F	17	4:45 19.7	11:20 2.0	17:16 19.4	24:00 19.4						
M	18	4:04 19.1	10:26 3.0	16:22 19.6	22:47 2.9						Th	18	5:00 19.2	11:22 2.7	17:30 19.1	23:45 3.8					S	18	5:32 19.5	12:08 2.1	18:05 19.2	24:00 19.4						
Tu	19	4:40 19.0	10:53 3.1	17:02 19.4	23:19 3.3						F	19	5:48 18.9	12:11 2.9	18:21 18.8						S	19	0:28 3.7	6:23 19.3	13:02 2.2	23:56 19.4						
W	20	5:21 18.9	11:31 3.3	17:49 19.1						D	S	20	0:40 4.1	6:41 18.6	13:14 3.0	19:20 18.4					D	M	20	1:27 3.9	7:18 19.0	14:03 2.3	23:56 19.4					
Th	21	0:01 3.7	6:09 18.6	12:21 3.5	18:41 18.6						S	21	1:45 4.5	7:40 18.3	14:26 3.0	20:23 18.2					E	Tu	21	2:34 4.0	8:18 18.8	15:10 2.3	24:00 19.4					
F	22	0:59 4.3	7:04 18.2	13:25 3.7	19:40 18.1						M	22	3:02 4.4	8:48 18.3	15:38 2.6	21:29 18.4					W	22	3:41 3.7	9:21 18.7	16:16 2.1	24:00 19.4						
S	23	2:10 4.7	8:06 17.9	14:46 3.6	20:46 18.0					E	Tu	23	4:15 3.8	9:52 18.6	16:45 1.9	22:34 18.9					P	Th	23	4:50 4.2	10:27 18.9	17:20 1.7	24:00 19.4					
S	24	3:34 4.5	9:12 18.0	16:06 3.0	21:56 18.3						W	24	5:19 2.8	10:56 19.3	17:46 1.0	23:35 19.6					F	24	5:53 2.5	11:30 19.2	18:20 1.2	24:00 19.4						
M	25	4:44 3.8	10:21 18.5	17:15 2.0	23:02 19.0					P	Th	25	6:17 1.8	11:56 20.1	18:42 0.2						S	25	0:06 19.3	6:50 1.6	12:30 19.6	24:00 19.4						
Tu	26	5:48 2.7	11:26 19.4	18:14 0.8							F	26	0:30 20.3	7:10 0.9	12:52 20.7	19:34 —0.3					C	S	26	1:01 19.8	7:45 1.0	13:26 20.0	24:00 19.4					
W	27	0:02 19.9	6:43 1.5	12:25 20.5	19:07 —0.3					○	S	27	1:21 20.8	8:00 0.3	13:44 21.1	20:23 —0.5					N	M	27	1:52 20.1	8:35 0.5	14:19 20.2	24:00 19.4					
Th	28	0:56 20.8	7:33 0.5	13:17 21.4	19:56 —0.9						S	28	2:10 21.1	8:48 0.0	14:33 21.3	21:11 —0.3						Tu	28	2:40 20.2	9:22 0.8	15:06 20.2	24:00 19.4					
F	29	1:45 21.4	8:20 —0.1	14:06 22.0	20:43 —1.2					N	M	29	2:55 21.1	9:35 0.0	15:20 21.1	21:48 0.3					W	29	3:24 20.2	10:09 0.4	15:51 20.0	24:00 19.4						
S	30	2:31 21.8	9:06 —0.4	14:52 22.1	21:29 —1.0						Tu	30	3:40 20.7	10:22 0.3	16:06 20.6	22:45 1.1					Th	30	4:08 20.0	10:53 0.6	16:35 19.6	24:00 19.4						
S	31	3:15 21.7	9:50 —0.2	15:38 21.9	22:15 —0.4															F	31	4:50 19.6	11:38 1.1	17:19 19.2	24:00 19.4							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region and which is 10.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich mean civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 gives the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.							MAY.							JUNE.						
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
A	Th	1	2:58 4.1	8:48 14.3	15:32 3.8	21:12 14.7	E	S	1	3:17 3.3	9:00 15.0	15:47 3.4	21:18 15.5	O	Tu	1	4:08 2.4	9:40 16.3	16:33 2.7	21:57 17.0
	F	2	4:01 3.0	9:46 15.4	16:28 2.9	22:12 15.8		S	2	4:12 2.4	9:48 16.0	16:38 2.6	22:02 16.5		W	2	4:56 1.9	10:20 17.0	17:15 2.3	22:36 17.7
	S	3	4:55 2.0	10:32 16.2	17:20 2.0	22:43 16.6		M	3	4:58 1.7	10:26 16.7	17:20 2.1	22:37 17.3		Th	3	5:37 1.6	10:56 17.6	17:55 2.0	23:13 18.1
	S	4	5:35 1.3	11:06 16.8	17:58 1.6	23:15 17.2		Tu	4	5:39 1.3	10:58 17.2	17:57 1.8	23:10 17.8		F	4	6:14 1.5	11:32 17.9	18:28 1.8	23:50 18.4
	M	5	6:15 1.0	11:35 17.2	18:33 1.5	23:42 17.7		W	5	6:13 1.2	11:27 17.6	18:28 1.8	23:40 18.2		S	5	6:48 1.6	12:08 18.2	19:00 1.7	24:18 18.9
E	Tu	6	6:47 1.0	11:59 17.5	19:02 1.7	24:00 18.2	O	Th	6	6:44 1.3	11:57 17.9	18:53 1.9	23:37 18.5	S	S	6	7:22 18.4	12:47 1.7	19:35 18.2	24:53 1.8
	W	7	7:08 18.0	12:14 1.8	19:22 1.7	24:12 1.9		F	7	7:06 18.4	12:28 1.5	19:13 1.8	23:49 2.0		M	7	7:57 18.2	13:27 1.9	20:15 1.8	25:25 2.0
	Th	8	7:33 18.8	12:50 1.5	19:34 1.7	24:24 2.1		S	8	7:31 18.5	13:02 1.7	19:39 2.1	23:59 2.1		Tu	8	8:36 17.8	14:12 2.2	21:00 1.6	26:00 2.1
	F	9	7:50 18.4	13:22 1.7	19:52 1.8	24:36 2.1		S	9	7:58 18.2	13:40 2.0	20:12 1.8	24:10 2.2		W	9	9:23 17.2	15:01 2.5	21:50 1.7	26:50 2.2
	S	10	8:12 18.3	13:59 2.0	20:25 1.7	24:48 2.3		M	10	8:34 17.7	14:24 2.4	20:54 1.7	24:22 2.6		Th	10	10:13 16.4	15:57 2.8	22:47 1.6	27:40 2.5
S	S	11	8:45 17.8	14:40 2.3	21:00 1.7	25:00 2.6	C	Tu	11	9:20 16.9	15:13 2.9	21:45 1.6	24:30 3.0	C	F	11	11:13 15.8	17:02 3.1	23:52 1.5	28:30 2.6
	M	12	9:27 17.0	15:28 2.8	21:50 1.6	25:10 3.1		W	12	10:14 16.0	16:10 3.4	22:48 1.5	24:48 3.3		S	12	12:26 16.4	18:18 3.1	24:53 1.5	29:20 2.7
	Tu	13	10:23 15.9	16:26 3.5	22:56 1.5	25:56 3.7		Th	13	11:23 15.1	17:22 3.8	23:59 1.5	25:00 3.1		S	13	1:06 2.4	19:03 15.5	25:59 2.9	30:10 1.6
	W	14	11:33 14.9	17:40 4.0	24:00 1.4	26:10 3.1		F	14	12:48 14.8	18:47 3.6	26:10 1.5	26:10 3.1		M	14	2:22 2.0	20:15 16.2	26:59 2.4	31:00 1.6
	Th	15	12:28 4.0	18:03 14.5	24:48 4.1	26:20 1.8		S	15	1:34 2.9	19:13 15.4	20:06 3.0	26:20 1.6		Tu	15	3:32 1.5	21:18 17.0	27:40 1.8	32:00 1.7
P	F	16	1:54 3.5	7:59 15.2	14:42 3.4	20:33 15.9	E	S	16	2:53 2.0	8:45 16.6	15:30 2.1	21:10 17.3	N	W	16	4:34 1.0	10:14 17.5	17:03 1.2	22:31 18.0
	S	17	3:23 2.3	9:10 16.6	15:58 2.1	21:35 17.4		M	17	4:00 1.0	9:43 17.7	16:30 1.2	22:08 1.8		Th	17	5:28 0.6	10:56 17.8	17:53 0.9	23:16 18.1
	S	18	4:27 0.9	10:15 18.0	16:55 0.9	22:25 18.8		Tu	18	4:55 0.2	10:30 18.5	17:20 0.4	22:50 1.9		F	18	6:17 0.5	11:37 17.8	18:39 0.9	23:57 17.9
	M	19	5:20 -0.3	10:52 19.0	17:43 -0.1	23:10 19.7		W	19	5:45 -0.3	11:13 18.08	18:08 0.2	23:31 19.2		S	19	7:00 0.8	12:14 17.5	19:22 1.2	24:40 2.0
	Tu	20	6:05 -1.0	11:34 20.7	18:25 -0.5	23:52 20.2		Th	20	6:30 -0.3	11:52 18.8	18:52 0.3	23:59 20.2		S	20	7:42 17.5	13:42 1.4	19:47 1.7	25:02 2.1
N	W	21	6:47 -1.2	12:12 19.8	19:07 -0.5	24:00 20.1	N	F	21	7:12 19.0	12:28 0.0	19:28 0.7	24:10 2.1	A	M	21	8:20 17.0	13:22 2.0	19:35 1.6	25:02 2.2
	Th	22	7:28 20.1	12:48 -0.8	19:47 0.1	24:10 2.2		S	22	7:52 18.5	13:04 0.7	20:12 1.2	24:20 2.2		Tu	22	8:55 16.5	13:57 2.7	20:12 1.5	25:12 2.3
	F	23	8:06 19.4	13:25 -0.1	20:23 0.8	24:30 2.3		S	23	8:32 17.8	13:42 1.6	20:50 1.2	24:30 2.3		W	23	9:27 16.0	14:34 3.2	21:00 1.5	25:41 2.4
	S	24	8:45 18.6	14:02 0.8	21:02 1.6	24:40 2.4		M	24	9:08 16.9	14:18 2.5	21:28 1.6	24:40 2.4		Th	24	10:00 15.5	15:17 3.6	21:20 1.5	25:54 2.5
	S	25	9:22 17.6	14:42 1.9	21:42 1.6	24:50 2.5		Tu	25	9:47 16.0	15:00 3.3	22:10 1.5	24:50 2.5		F	25	10:33 15.0	15:46 4.0	21:30 1.5	26:00 2.6
D	M	26	10:08 16.3	15:27 3.0	22:30 1.5	25:00 2.6	D	W	26	10:30 15.1	15:50 4.0	22:55 1.7	25:10 2.6	E	S	26	11:20 14.6	16:33 4.2	22:55 1.4	25:35 2.7
	Tu	27	10:57 15.0	16:22 4.0	23:27 1.4	25:10 2.7		Th	27	12:20 14.3	16:48 4.4	23:53 1.4	25:35 2.7		S	27	12:16 14.4	17:03 4.2	23:55 1.4	25:35 2.7
	W	28	11:58 13.8	17:35 4.7	24:15 1.3	25:35 2.8		F	28	12:23 13.8	18:00 4.6	24:40 1.4	25:35 2.8		M	28	1:02 3.5	16:50 14.5	24:00 1.4	25:40 2.8
	Th	29	1:03 4.5	6:27 13.4	13:27 4.8	25:10 13.6		S	29	1:00 4.1	6:47 13.9	13:35 4.4	25:10 14.5		Tu	29	2:00 3.3	17:55 15.1	24:27 3.6	26:00 2.9
	F	30	2:08 4.2	8:00 14.0	14:45 4.2	25:24 14.5		S	30	2:10 3.6	7:57 14.6	14:42 3.9	25:20 15.3		W	30	3:05 3.0	8:54 15.8	15:36 3.2	26:10 3.0
A							E	M	31	3:12 3.0	8:54 15.5	15:42 3.4	21:17 16.2							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day. A comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 9.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0° is midnight, 12° is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
O	Th	1	4:05 2.5	9:44 16.7	16:38 2.6	22:06 17.4	○	S	1	5:27 1.7	10:54 18.0	17:52 1.2	23:18 18.4	P	W	1	6:40 -0.1	12:05 20.1	19:00 -0.9	. . .												
	F	2	5:02 2.0	10:28 17.4	17:23 2.1	22:50 17.9		M	2	6:15 1.1	11:38 18.7	18:38 0.5	. . .	E	Th	2	0:28 19.9	7:20 -0.5	12:45 20.8	19:41 -1.1												
	S	3	5:48 1.6	11:12 17.9	18:10 1.6	23:33 18.3		Tu	3	0:02 18.9	6:59 0.7	12:21 19.2	19:20 0.1		F	3	1:07 19.9	8:00 -0.4	13:25 20.2	20:20 -0.8												
	S	4	6:33 1.5	11:52 18.3	18:52 1.3	. . .	P	W	4	0:44 19.1	7:40 0.4	13:08 19.4	20:02 -0.1		S	4	1:47 19.4	8:38 0.1	14:07 19.5	21:02 -0.2												
	M	5	0:14 18.5	7:12 1.3	12:33 18.5	19:32 1.1		Th	5	1:25 19.1	8:20 0.5	13:45 19.3	20:42 0.0		S	5	2:30 18.6	9:20 0.7	14:50 18.6	21:46 0.7												
P	Tu	6	0:56 18.5	7:52 1.3	13:16 18.5	20:13 1.0	E	F	6	2:06 18.6	9:00 0.6	14:30 18.8	21:25 0.3	○	M	6	3:15 17.4	10:05 1.7	15:38 17.2	22:35 1.8												
	W	7	1:38 18.2	8:32 1.5	14:00 18.2	20:57 1.1		S	7	2:54 18.0	9:43 1.1	15:16 18.1	22:10 0.9		Tu	7	4:07 16.1	10:58 2.7	16:35 16.8	23:32 2.9												
	Th	8	2:34 17.8	9:17 1.6	14:47 17.8	21:43 1.3	○	S	8	3:43 17.1	10:32 1.8	16:10 17.0	23:02 1.6	N	W	8	5:12 14.8	12:08 3.6	17:52 14.6	. . .												
	F	9	3:13 17.2	10:13 1.9	15:39 17.2	22:34 1.5		M	9	4:40 16.1	11:26 2.5	17:10 16.0	. . .		Th	9	0:52 8.7	6:42 14.1	13:37 4.1	19:36 14.8												
	S	10	4:09 16.4	10:55 2.3	16:37 16.5	23:27 2.0		Tu	10	0:05 2.4	5:50 15.2	12:33 8.2	18:28 15.2		F	10	2:21 8.8	8:16 14.4	15:02 8.5	20:52 14.9												
C	S	11	5:13 15.8	11:57 2.7	17:46 16.0	. . .		W	11	1:20 2.9	7:16 14.8	14:02 8.4	19:55 15.1		S	11	3:35 8.3	9:22 15.2	16:08 2.5	21:55 15.8												
	M	12	0:36 2.2	6:28 15.5	13:06 2.8	19:03 15.8	N	Th	12	2:45 3.0	8:33 15.2	15:23 3.1	21:06 15.6		S	12	4:35 2.4	10:15 16.1	17:02 1.7	22:42 16.6												
	Tu	13	1:50 2.3	7:45 15.6	14:28 2.8	20:16 16.1		F	13	3:57 2.6	9:38 15.8	16:28 2.4	22:07 16.3		M	13	5:25 1.5	10:58 16.8	17:48 1.0	23:21 17.0												
	W	14	3:07 2.2	8:54 16.1	15:42 2.4	21:21 16.6		S	14	4:57 2.0	10:33 16.3	17:22 1.6	22:57 16.7	●	Tu	14	6:08 1.2	11:32 17.2	18:27 0.6	23:52 17.2												
	Th	15	4:15 1.8	9:53 16.6	16:45 1.8	22:18 16.9	●	S	15	5:47 1.4	11:16 16.7	18:10 1.2	23:38 16.9		W	15	6:46 1.2	11:58 17.4	19:02 0.8	. . .												
N	F	16	5:12 1.5	10:43 16.9	17:38 1.5	23:05 17.2		M	16	6:32 1.2	11:52 16.9	18:52 0.9	. . .	E	Th	16	0:16 17.2	7:12 1.6	12:22 17.5	19:32 1.3												
	S	17	6:08 1.2	11:26 17.0	18:27 1.2	23:47 17.2		Tu	17	0:10 16.9	7:10 1.3	12:22 17.0	19:28 1.2	A	F	17	0:37 17.2	7:42 2.2	12:46 17.7	19:53 1.8												
	S	18	6:48 1.2	12:03 16.9	19:10 1.3	. . .		W	18	0:38 16.8	7:45 1.9	12:46 17.0	20:00 1.6		S	18	1:00 17.3	7:55 2.5	13:12 17.8	20:05 2.1												
	M	19	0:22 17.0	7:30 1.5	12:37 16.8	19:48 1.6	A	Th	19	1:02 16.6	8:12 2.4	13:12 17.0	20:26 2.1		S	19	1:29 17.3	8:08 2.7	13:44 17.8	20:20 2.3												
	Tu	20	0:53 16.6	8:05 1.6	13:06 16.6	20:22 2.0		F	20	1:28 16.6	8:30 2.8	13:40 17.1	20:40 2.4		M	20	2:02 17.2	8:22 2.8	14:22 17.5	20:45 2.5												
D	W	21	1:23 16.3	8:37 2.7	13:35 16.5	20:32 2.6		S	21	1:58 16.6	8:48 3.0	14:15 17.2	21:00 2.5		Tu	21	2:42 16.8	8:56 2.9	15:02 16.9	21:23 2.9												
	Th	22	1:54 16.1	9:02 3.2	14:08 16.4	21:15 2.8		S	22	2:35 16.6	9:02 3.1	14:53 17.0	21:25 2.7	D	W	22	3:27 16.1	9:45 3.3	15:53 16.0	22:18 3.4												
	F	23	2:29 16.0	9:22 3.5	14:45 16.3	21:40 3.0		M	23	3:14 16.3	9:33 3.2	15:37 16.5	22:15 2.9	s	Th	23	4:23 15.3	10:46 3.7	16:58 15.0	23:24 4.0												
	S	24	3:07 15.7	9:45 3.6	15:28 16.1	22:10 3.1	D	Tu	24	4:02 15.7	10:25 3.4	16:30 15.8	22:58 3.3		F	24	5:35 14.5	12:00 4.1	18:17 14.5	. . .												
	S	25	3:53 15.4	10:22 3.7	16:17 15.7	22:56 3.3		W	25	5:00 15.1	11:28 3.7	17:34 15.1	23:59 3.6		S	25	0:41 4.2	7:01 14.6	13:33 8.9	19:47 15.0												
s	M	26	4:45 15.0	11:15 3.8	17:13 15.3	23:47 3.4		Th	26	6:12 14.7	12:30 3.9	18:58 14.9	. . .		S	26	2:24 3.7	8:24 15.5	15:09 2.9	21:00 16.2												
	Tu	27	5:48 14.7	12:12 3.9	18:22 15.2	. . .	s	F	27	1:12 3.8	7:34 14.8	13:56 8.8	20:13 15.4		M	27	3:46 2.6	9:27 17.0	16:20 1.5	21:58 17.7												
	W	28	0:47 8.5	7:00 14.8	13:14 3.8	19:34 15.3		S	28	2:49 3.5	8:48 15.8	15:33 8.0	21:21 16.5		Tu	28	4:47 1.8	10:20 18.6	17:12 0.2	22:46 19.0												
	Th	29	2:00 8.4	8:12 15.3	14:39 3.5	20:42 16.0		S	29	4:08 2.6	9:47 17.0	16:40 1.9	22:15 17.7	○	W	29	5:35 0.1	11:05 19.8	17:58 -0.9	23:28 19.9												
	F	30	3:24 8.0	9:13 16.2	15:58 2.9	21:40 16.9		M	30	5:08 1.6	10:38 18.3	17:34 0.7	23:03 18.7	P	Th	30	6:18 -0.6	11:46 20.5	18:40 -1.5	. . .												
	S	31	4:33 2.4	10:07 17.1	17:00 2.0	22:32 17.7	○	Tu	31	5:58 0.6	11:23 19.3	18:20 -0.3	23:47 19.5																			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 9.1 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N C	F	1	0:08 20.2	6:59 —0.9	12:25 20.7	19:18 —1.5					M	1	1:04 19.3	8:00 0.3	13:21 19.3	20:20 0.4					W	1	1:23 17.8	8:30 1.5	13:42 17.6	20:30 1.9						
	S	2	0:47 20.3	7:37 —0.7	13:04 20.5	20:00 —0.9					N Tu	2	1:41 18.4	8:41 1.1	14:01 18.1	21:04 1.5					Th	2	2:01 17.0	9:11 2.2	14:23 16.5	21:30 2.8						
	S	3	1:25 19.7	8:18 0.0	13:43 19.7	20:40 —0.1					W	3	2:22 17.3	9:24 2.1	14:44 16.8	21:49 2.6					F	3	2:43 16.1	9:54 2.9	15:07 15.5	22:15 3.6						
	M	4	2:06 18.8	8:58 0.8	14:24 18.5	21:23 1.0					C Th	4	3:06 16.0	10:13 8.1	15:34 15.5	22:41 3.6					C S	4	3:30 15.1	10:42 3.5	16:00 14.5	23:05 4.2						
	Tu	5	2:47 17.5	9:43 1.9	15:10 17.1	22:10 2.2					F	5	4:00 14.7	11:11 3.9	16:36 14.1	23:46 4.4					S	5	4:25 14.4	11:36 4.0	17:04 18.8							
	W	6	3:35 16.0	10:35 3.0	16:03 15.5	23:06 3.4					S	6	5:12 13.7	12:26 4.3	18:10 13.4						M	6	5:05 4.6	5:36 14.0	12:43 4.1	18:25 13.7						
	Th	7	4:35 14.6	11:42 3.9	17:14 14.1						S	7	1:17 4.6	6:58 13.6	13:47 4.1	19:50 13.9					E A Tu	7	1:15 4.5	6:52 14.1	13:53 3.8	19:46 14.3						
	F	8	0:21 4.2	6:00 13.6	13:06 4.3	19:08 13.7					M	8	2:24 4.2	8:13 14.4	14:57 8.3	20:50 14.9					W	8	2:26 4.1	8:06 14.9	15:00 3.2	20:42 15.1						
	S	9	1:50 4.3	7:50 13.8	14:31 3.7	20:32 14.4					A E Tu	9	3:27 3.3	9:06 15.4	15:54 2.3	21:37 15.9					Th	9	3:28 8.5	9:00 15.7	15:55 2.6	21:51 15.9						
	S	10	3:07 3.7	8:55 14.8	15:38 2.8	21:29 15.4					W	10	4:19 2.5	9:50 16.4	16:31 1.6	22:16 16.6					F	10	4:20 2.9	9:46 16.6	16:44 2.2	22:10 16.6						
M	11	4:07 2.6	9:47 15.9	16:32 1.8	22:17 16.4					Th	11	5:05 2.0	10:27 17.2	17:24 1.3	22:48 17.2					S	11	5:07 2.4	10:27 17.3	17:27 1.8	22:47 17.2							
Tu	12	4:56 1.9	10:30 16.8	17:17 1.0	22:52 17.0					F	12	5:42 1.7	10:58 17.7	18:00 1.2	23:16 17.5					S	12	5:46 2.1	11:02 17.7	18:05 1.7	23:20 17.6							
E A	W	13	5:40 1.4	11:03 17.4	17:57 0.7	23:23 17.4				S	13	6:16 1.8	11:28 18.0	18:31 1.4	23:44 17.5					M	13	6:19 2.0	11:36 18.0	18:35 1.7	23:54 17.9							
●	Th	14	6:17 1.3	11:30 17.7	18:33 0.7	23:48 17.5				S	14	6:44 1.9	11:56 18.2	18:55 1.7					S Tu	14	6:50 2.0	12:11 18.2	19:02 1.9									
F	15	6:47 1.5	11:55 18.0	19:00 1.2						M	15	0:13 17.9	7:00 2.1	12:27 18.2	19:15 2.0					W	15	0:29 18.0	7:18 1.9	12:48 18.1	19:23 2.1							
S	16	0:10 17.6	7:10 2.0	12:20 18.1	19:22 1.6					Tu	16	0:44 17.9	7:22 2.2	13:01 18.1	19:36 2.2					Th	16	1:07 18.0	7:52 2.0	13:23 17.9	20:18 2.3							
S	17	0:35 17.7	7:20 2.3	12:48 18.2	19:35 2.0					S W	17	1:19 17.7	7:48 2.4	13:39 17.7	20:07 2.6					F	17	1:48 17.8	8:31 2.1	14:10 17.4	20:48 2.5							
M	18	1:04 17.7	7:35 2.4	13:20 18.0	19:52 2.2					Th	18	2:00 17.8	8:25 2.7	14:21 17.0	20:48 3.0					S	18	2:23 17.3	9:18 2.3	14:59 17.8	21:36 2.8							
Tu	19	1:37 17.5	7:57 2.5	13:57 17.7	20:18 2.5					F	19	2:44 16.7	9:15 3.1	15:11 16.2	21:38 3.5					S	19	3:23 16.7	10:08 2.5	15:53 16.0	22:30 3.1							
S W	20	2:17 17.1	8:33 2.8	14:38 17.0	20:58 3.0					D S	20	3:37 15.9	10:12 3.4	16:10 16.3	22:44 3.8					M	20	4:21 16.1	11:08 2.7	16:58 15.5	23:38 3.3							
Th	21	3:02 16.4	9:20 3.3	15:28 16.0	21:50 3.6					S	21	4:43 16.2	11:26 3.6	17:28 14.7						Tu	21	5:31 15.6	12:20 2.8	18:16 15.2								
D	F	3:57 15.5	10:22 3.7	16:30 15.0	23:00 4.2					M	22	0:03 4.0	6:03 15.0	12:50 3.3	18:52 14.9					W	22	0:52 3.3	6:52 15.7	13:38 2.4	19:37 15.6							
S	23	5:05 14.7	11:40 4.0	17:50 14.4						E Tu	23	1:29 3.5	7:28 15.7	14:13 2.5	20:11 16.1					P Th	23	2:13 2.8	8:07 16.3	14:54 2.0	20:46 16.5							
S	24	0:20 4.2	6:32 14.6	13:15 3.7	19:21 14.8					W	24	2:50 2.6	8:39 16.8	15:25 1.5	21:14 17.3					F	24	3:31 2.3	9:12 17.2	16:04 1.3	21:45 17.5							
M	25	2:00 3.7	7:58 15.5	14:45 2.7	20:40 16.2					P Th	25	3:57 1.6	9:36 18.0	16:25 0.5	22:05 18.3					S	25	4:34 1.5	10:08 17.9	17:02 0.8	22:35 17.5							
Tu	26	3:20 2.5	9:05 17.0	15:53 1.3	21:38 17.7					F	26	4:52 0.7	10:25 19.0	17:12 —0.2	22:50 19.0					C S	26	5:28 0.9	10:55 18.3	17:54 0.4	23:19 18.1							
E W	27	4:20 1.2	9:58 18.5	16:48 0.0	22:27 18.9					O S	27	5:41 0.1	11:08 19.5	18:04 —0.5	23:31 19.2					N M	27	6:12 0.6	11:38 18.3	18:40 0.3	23:59 18.1							
Th	28	5:12 0.2	10:45 19.7	17:35 —0.8	23:11 19.7					S	28	6:26 0.0	11:49 19.5	18:48 —0.3						Tu	28	7:01 0.5	12:18 18.1	19:22 0.7								
F	29	5:57 —0.5	11:27 20.4	18:20 —1.3	23:48 20.2					N M	29	0:09 19.0	7:09 0.2	12:28 19.1	19:30 0.2					W	29	0:35 17.9	7:42 0.9	12:54 17.7	20:01 1.2							
S	30	6:40 —0.7	12:06 20.6	19:00 —1.1						Tu	30	0:47 18.6	7:48 0.8	13:05 18.4	20:10 1.0					Th	30	1:10 17.4	8:20 1.3	13:30 17.1	20:38 2.0							
S	31	0:27 20.0	7:20 —0.4	12:43 20.1	19:41 —0.5														F	31	1:44 17.0	8:57 2.0	14:04 16.5	21:12 2.7								

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The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
ON	F	1	1:36 4.6	6:58 2.4	13:50 4.7	19:46 1.6	M	1	3:45 4.5	11:48 2.3	16:45 4.3	19:00 2.6	N	M	1	0:56 4.4	6:27 2.5	13:31 3.9	19:00 2.6	
	S	2	3:01 4.8	8:10 2.3	15:21 4.7	20:46 1.6	N	Tu	2	0:10 2.1	5:15 4.9	12:45 1.8	17:45 4.8	Tu	2	2:34 4.1	11:26 2.4	17:03 4.0	19:00 2.6	
	S	3	4:34 5.1	9:20 2.1	16:51 4.9	21:41 1.6		W	3	1:00 1.9	6:00 5.5	13:35 1.3	18:31 5.3	W	3	0:00 2.6	5:13 4.4	12:25 1.8	17:45 4.6	
	M	4	5:26 5.6	10:20 1.7	17:48 5.4	22:31 1.4		Th	4	1:50 1.6	6:41 6.1	14:17 0.9	19:11 5.8	Th	4	0:42 2.2	5:51 6.1	13:15 1.3	18:19 5.2	
	Tu	5	6:10 6.1	11:10 1.4	18:38 5.8	23:15 1.3	○	F	5	2:31 1.5	7:20 6.6	15:00 0.7	19:44 6.0	F	5	1:30 1.7	6:25 6.7	13:55 0.9	18:55 5.7	
	W	6	6:56 6.5	11:58 1.1	19:20 6.0		S	6	0:16 1.4	7:52 6.8	15:40 0.7	20:13 6.2	S	6	2:10 1.5	7:00 6.4	14:34 0.6	19:23 6.1		
	Th	7	0:02 1.3	7:31 6.8	12:35 0.9	19:55 6.1	S	7	0:51 1.4	8:20 6.8	13:29 0.7	20:41 6.1	○ A	S	7	2:40 1.3	7:31 6.8	15:05 0.6	19:51 6.4	
	F	8	0:31 1.8	8:05 6.8	13:10 0.9	20:30 6.0	A	M	8	1:24 1.3	8:50 6.6	14:00 0.7	21:09 5.9	M	8	0:38 1.1	8:00 6.9	13:04 0.5	20:18 5.5	
	S	9	1:09 1.4	8:38 6.6	13:45 1.0	21:01 5.7		Tu	9	1:58 1.3	9:17 6.4	14:29 0.7	21:35 5.7	E	Tu	9	1:08 0.9	8:27 6.9	13:35 0.4	20:43 6.5
	S	10	1:40 1.6	9:09 6.3	14:17 1.0	21:30 5.4	E	W	10	2:28 1.2	9:45 6.1	15:01 0.8	22:00 5.4	W	10	1:40 0.8	8:55 6.7	14:03 0.5	21:10 6.2	
A	M	11	2:14 1.7	9:37 6.9	14:50 1.2	21:56 5.0	Th	11	3:03 1.2	10:14 5.8	15:34 0.8	22:29 5.2	Th	11	2:10 0.7	9:23 6.4	14:35 0.5	21:39 6.0		
Tu	12	2:45 1.7	10:10 5.6	15:24 1.2	22:31 4.8	F	12	3:39 1.3	10:45 5.4	16:13 1.0	23:11 5.0	F	12	2:45 0.8	9:58 6.0	15:08 0.7	22:10 5.7			
E	W	13	3:24 1.8	10:40 6.3	16:02 1.2	23:07 4.6	○	S	13	4:20 1.5	11:25 5.0	16:59 1.3	23:56 4.7	S	13	3:21 0.9	10:26 5.5	15:44 0.9	22:45 5.3	
○	Th	14	4:01 1.8	11:15 6.1	16:49 1.3	23:45 4.6	S	14	5:17 1.7	12:13 4.5	17:56 1.6		S	14	3:59 1.1	11:04 5.0	16:21 1.3	23:25 4.9		
F	15	4:57 2.0	12:00 4.8	17:46 1.5			M	15	0:54 4.4	6:34 2.0	13:25 4.1	19:11 1.9	○	M	15	4:46 1.5	11:50 4.4	17:15 1.8		
S	16	0:40 4.4	6:04 2.1	12:56 4.5	18:49 1.6		Tu	16	2:20 4.8	7:53 2.0	15:20 4.0	20:26 1.9	S	Tu	16	0:20 4.5	6:01 2.0	13:00 4.0	18:36 2.2	
S	17	1:47 4.4	7:19 2.0	14:19 4.3	19:55 1.5	S	W	17	4:17 4.7	9:15 1.8	17:09 4.7	21:41 1.6	W	17	1:39 4.2	7:24 2.2	14:53 8.9	19:54 2.3		
M	18	3:21 4.7	8:31 1.9	16:06 4.4	21:03 1.4	Th	18	5:33 5.7	10:30 1.2	18:10 5.7	22:50 1.1	Th	18	3:45 4.5	8:58 1.9	17:05 4.7	21:23 2.0			
Tu	19	4:50 5.2	9:40 1.6	17:27 5.1	22:07 1.1	F	19	6:28 6.7	11:35 0.4	18:58 6.6	23:51 0.6	F	19	5:18 5.4	10:14 1.2	17:55 5.7	22:40 1.3			
S	W	20	5:51 6.1	10:48 0.9	18:24 5.9	23:07 0.7	●	S	20	7:11 7.6	12:33 -0.2	19:38 7.2	S	20	6:10 6.5	11:23 0.4	18:40 6.7	23:40 0.6		
Th	21	6:42 6.9	11:48 0.8	19:09 6.5		S	21	0:44 0.1	7:51 8.1	13:23 -0.6	20:15 7.6	●	S	21	6:54 7.5	12:19 -0.3	19:19 7.4			
●	F	22	0:03 0.4	7:25 7.6	12:43 -0.1	19:51 7.0	M	22	1:29 0.0	8:30 8.2	14:05 -0.7	20:58 7.7	E	M	22	0:30 0.0	7:33 8.0	13:05 -0.6	19:56 7.9	
P	S	23	0:51 0.3	8:06 7.9	13:34 -0.3	20:31 7.2	E	Tu	23	2:09 0.0	9:08 8.0	14:43 -0.5	21:29 7.4	Tu	23	1:13 -0.3	8:10 8.2	13:44 -0.7	20:31 8.0	
S	24	1:40 0.3	8:46 7.9	14:20 -0.3	21:11 7.1	W	24	2:50 0.3	9:44 7.6	15:19 -0.1	22:05 6.9	W	24	1:51 -0.3	8:49 8.0	14:16 -0.5	21:06 7.7			
M	25	2:24 0.5	9:25 7.7	15:01 -0.1	21:50 6.8	Th	25	3:25 0.6	10:21 7.0	15:55 0.4	22:41 6.3	Th	25	2:28 0.0	9:24 7.6	14:50 0.0	21:41 7.2			
E	Tu	26	3:05 0.8	10:05 7.2	15:44 0.2	22:30 6.3	F	26	4:00 1.1	10:58 6.2	16:32 0.9	23:19 6.6	F	26	3:01 0.4	10:00 6.9	15:23 0.6	22:15 6.5		
W	27	3:46 1.1	10:48 6.6	16:25 0.6	23:09 5.8	○	S	27	4:43 1.6	11:39 5.4	17:12 1.6		S	27	3:35 0.9	10:36 6.0	15:56 1.2	22:51 5.8		
○	Th	28	4:30 1.5	11:28 6.0	17:09 1.0	23:53 5.3	S	28	0:01 5.0	5:30 2.1	12:25 4.6	18:00 2.1	○	S	28	4:13 1.5	11:14 6.2	16:32 1.8	23:31 5.0	
F	29	5:17 1.9	12:09 5.3	17:57 1.4									M	29	4:54 1.9	11:58 4.4	17:15 2.4			
S	30	0:44 4.8	6:12 2.2	13:03 4.7	18:51 1.9								Tu	30	0:19 4.4	5:51 2.4	12:59 8.7	18:15 2.8		
S	31	1:54 4.5	7:11 2.5	14:26 4.3	19:52 2.1								W	31	1:31 3.9	11:04 2.3	16:58 3.8	23:38 2.7		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ○, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	4:51	11:50	17:27					S	1	4:48	12:03	17:27	21:17	Tu	1	5:04	9:49	17:33	22:13											
			4.0	1.9	4.5							4.4	1.6	4.9	2.4			5.2	0.9	5.8	1.2											
	F	2	0:20	5:29	12:43	17:58				E	S	2	5:19	12:40	17:48	22:05	W	2	5:55	10:36	18:16	23:03										
			2.3	4.7	1.4	5.1						5.0	1.4	5.5	1.8			5.8	0.6	6.4	0.7											
	S	3	1:04	6:01	13:20	18:28				M	3	5:51	10:35	18:16	22:55	Th	3	6:37	11:20	18:55	23:49											
			1.9	5.4	1.0	5.7						5.7	0.9	6.1	1.2			6.37	11:20	6.8	0.4											
	S	4	1:37	6:38	13:51	18:58				Tu	4	6:30	11:15	18:50	23:35	O	F	4	7:17	12:01	19:31											
			1.6	6.1	0.8	6.2						6.3	0.5	6.6	0.7			6.4	0.3	7.1												
	M	5	1:55	7:05	14:16	19:24				O	W	5	7:05	11:55	19:21		S	5	8:02	7:56	12:46	20:16										
			1.8	6.6	0.5	6.6						6.6	0.2	6.9				0.2	6.5	0.4	7.1											
E	Tu	6	0:07	7:36	12:30	19:51				Th	6	0:13	7:38	12:30	19:53	S	S	6	1:16	8:35	13:27	20:49										
			0.8	6.9	0.2	6.8						0.4	6.7	0.2	7.0			0.2	6.3	0.6	6.9											
	W	7	0:40	8:03	13:02	20:18				F	7	0:52	8:11	13:09	20:25	M	7	2:00	9:14	14:06	21:27											
			0.5	6.9	0.2	6.8						0.2	6.6	0.3	6.8			0.4	6.0	0.9	6.5											
	Th	8	1:16	8:32	13:35	20:46				S	8	1:31	8:46	13:44	21:00	Tu	8	2:44	9:52	14:50	22:06											
			0.4	6.7	0.3	6.6						0.3	6.3	0.5	6.6			0.7	5.6	1.3	6.2											
	F	9	1:50	9:03	14:07	21:16				S	S	9	2:09	9:21	14:21	21:35	W	9	3:30	10:34	15:36	22:49										
			0.4	6.4	0.4	6.8						0.4	5.9	0.9	6.2			0.9	5.2	1.7	5.7											
	S	10	2:25	9:34	14:40	21:48				M	10	2:50	9:59	14:59	22:12	Th	10	4:23	11:24	16:30	23:39											
			0.6	6.0	0.7	5.9						0.7	5.4	1.2	5.7			1.2	4.9	2.1	5.4											
S	S	11	3:01	10:09	15:17	22:24				Tu	11	3:34	10:41	15:43	22:57	C	F	11	5:24	12:20	17:35											
			0.7	5.4	1.0	5.5						1.0	4.9	1.7	5.3			1.4	4.6	2.3												
	M	12	3:44	10:49	15:59	23:06				C	W	12	4:25	11:30	16:39	23:48	E	S	12	6:35	6:32	13:30	18:49									
			1.0	4.9	1.5	5.0						1.4	4.5	2.2	4.9			5.0	1.4	4.6	2.3											
	Tu	13	4:33	11:36	16:49					Th	13	5:31	12:32	17:50		S	13	7:48	7:41	14:56	20:06											
			1.4	4.3	2.0							1.7	4.2	2.5			4.9	1.3	4.9	2.1												
	W	14	0:00	5:39	12:41	18:06				F	14	0:55	6:49	14:08	19:14	M	14	3:11	8:43	16:20	21:11											
			4.6	1.9	4.0	2.4						4.6	1.8	4.3	2.5			5.0	1.1	5.4	1.7											
	Th	15	1:13	7:03	14:29	19:34				S	15	2:29	8:11	16:04	20:40	Tu	15	4:35	9:36	17:15	22:07											
			4.3	2.1	3.9	2.5						4.6	1.5	4.9	2.1			5.4	0.9	6.0	1.3											
P	F	16	3:08	8:31	16:50	21:03				E	S	16	4:06	9:21	17:00	21:49	W	16	5:34	10:25	18:00	22:59										
			4.4	1.7	4.8	2.1						5.2	1.0	5.8	1.5			5.8	0.7	6.4	0.9											
	S	17	4:55	9:48	17:35	22:19				M	17	5:10	10:16	17:42	22:41	Th	17	6:28	11:10	18:48	23:45											
			5.3	1.0	5.8	1.4						5.9	0.5	6.5	0.9			6.2	0.6	6.9	0.7											
	S	18	5:42	10:55	18:15	23:16				Tu	18	6:01	11:03	18:27	23:29	F	18	7:13	11:52	19:30												
			6.3	0.3	6.7	0.6						6.6	0.1	7.0	0.4			6.4	0.7	7.1												
	M	19	6:30	11:49	18:58					W	19	6:48	11:45	19:10		N	S	19	8:29	7:54	12:32	20:07										
			7.1	-0.2	7.4							7.0	0.0	7.4			0.6	6.4	0.9	7.0												
	Tu	20	0:05	7:11	12:29	19:34				Th	20	0:14	7:29	12:27	19:46	S	20	1:10	8:35	13:10	20:45											
			0.1	7.6	-0.5	7.8						0.1	7.1	0.0	7.5			0.7	6.2	1.2	6.7											
D	W	21	0:45	7:51	13:06	20:09				F	21	0:54	8:08	13:04	20:23	M	21	1:46	9:11	13:45	21:19											
			-0.2	7.8	-0.5	7.8						0.1	7.0	0.3	7.3			0.9	5.8	1.5	6.3											
	Th	22	1:28	8:27	13:39	20:45				N	S	22	1:30	8:48	13:40	21:00	Tu	22	2:22	9:46	14:18	21:50										
			-0.2	7.6	-0.2	7.6						0.3	6.6	0.8	6.9			1.1	5.3	1.8	5.9											
	F	23	1:59	9:04	14:12	21:19				S	23	2:05	9:25	14:11	21:34	W	23	2:59	10:16	14:51	22:23											
			0.0	7.2	0.3	7.1						0.7	6.1	1.2	6.3			1.4	4.9	2.0	5.5											
	S	24	2:31	9:41	14:45	21:58				M	24	2:41	10:05	14:44	22:07	Th	24	3:36	10:51	15:31	22:57											
			0.4	6.5	0.9	6.4						1.0	5.4	1.7	5.7			1.6	4.5	2.2	5.1											
	S	25	3:06	10:18	15:15	22:27				Tu	25	3:17	10:36	15:16	22:43	F	25	4:20	11:29	16:20	23:35											
			1.0	5.7	1.5	5.7						1.5	4.8	2.1	5.2			1.6	4.3	2.4	4.8											
A	M	26	3:41	10:58	15:46	23:06				W	26	4:00	11:15	16:00	23:22	S	26	5:10	12:10	17:11												
			1.4	4.9	2.0	5.1						1.8	4.2	2.5	4.7			1.7	4.2	2.4												
	Tu	27	4:23	11:36	21:04	23:48				Th	27	4:50	12:02	16:51		S	27	6:28	6:08	13:05	18:21											
			1.8	4.2	2.5	4.5						2.0	3.9	2.7			4.6	1.7	4.2	2.4												
	W	28	5:16	12:31	22:08					A	F	28	0:10	5:50	13:08	18:01	M	28	1:21	7:09	14:19	19:30										
			2.2	3.7	2.9							4.4	2.1	3.8	2.8			4.4	1.7	4.4	2.2											
	Th	29	0:44	10:25	14:15	23:00				S	29	1:10	6:58	14:31	19:14	Tu	29	2:40	8:10	15:41	20:37											
			4.0	2.3	3.5	2.9						4.2	2.0	4.0	2.7			4.4	1.4	4.8	1.5											
	F	30	2:25	11:16	17:00	23:47				E	S	30	2:37	8:04	16:18	20:20	W	30	4:05	9:06	16:50	21:35										
			3.9	2.0	4.3	2.6						4.2	1.8	4.6	2.3			4.7	1.1	5.3	1.4											
									M	31	4:08	9:00	16:52	21:20																		
											4.7	1.4	5.2	1.8																		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 2d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.													
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								
	W.	Mo.										W.	Mo.										W.	Mo.									
SC	Th	1	5:20 5.2	9:50 0.8	17:45 6.0	22:26 0.9					○	S	1	6:45 6.2	11:21 0.7	19:00 7.2					P	W	1	1:10 -0.5	7:50 7.5	13:01 -0.1	20:04 8.2						
	F	2	6:13 5.7	10:44 0.6	18:31 6.7	23:23 0.5						M	2	0:11 0.1	7:27 6.7	12:17 0.4	19:41 7.7					E	Th	2	1:45 -0.7	8:27 7.7	13:44 -0.1	20:41 8.1					
	S	3	6:59 6.2	11:35 0.5	19:13 7.1						Tu	3	1:09 -0.2	8:08 7.0	13:06 0.3	20:21 7.8						F	3	2:20 -0.6	9:02 7.6	14:19 0.1	21:19 7.7						
	S	4	0:15 0.2	7:39 6.5	12:24 0.5	19:53 7.3					P	W	4	1:55 -0.3	8:48 7.1	13:50 0.4	21:00 7.7						S	4	2:50 -0.2	9:38 7.1	14:55 0.4	21:55 7.1					
	M	5	1:05 0.1	8:20 6.6	13:10 0.6	20:33 7.3						Th	5	2:36 -0.2	9:25 6.8	14:33 0.6	21:39 7.4						S	5	3:24 0.3	10:15 6.6	15:32 0.8	22:30 6.4					
	Tu	6	1:51 0.1	9:00 6.5	13:54 0.8	21:11 7.1					E	F	6	3:15 0.1	10:02 6.6	15:14 0.9	22:15 6.9					☾	M	6	3:58 0.8	10:50 5.9	16:10 1.4	23:10 5.6					
	P	W	7	2:39 0.3	9:40 6.2	14:40 1.1	21:51 6.8						S	7	3:53 0.4	10:40 6.2	15:55 1.2	22:52 6.3						Tu	7	4:40 1.5	11:34 5.3	16:57 1.9	23:56 4.8				
	Th	8	3:24 0.5	10:20 5.9	15:25 1.4	22:30 6.4					☾	S	8	4:34 0.8	11:19 5.6	16:41 1.6	23:36 5.6					N	W	8	5:26 2.2	12:25 4.6	17:54 2.4						
	E	F	9	4:11 0.8	11:03 5.5	16:14 1.7	23:15 5.9						M	9	5:21 1.2	12:04 5.2	17:35 2.0						Th	9	1:00 4.1	6:25 2.4	13:52 4.2	22:40 2.3					
	☾	S	10	5:04 1.0	11:50 5.2	17:09 2.0						Tu	10	0:29 5.0	6:13 1.7	13:08 4.7	18:32 2.2						F	10	4:15 4.0	11:00 2.5	16:35 4.4	23:36 1.8					
N	S	11	0:08 5.4	5:59 1.2	12:46 4.9	18:09 2.1						W	11	1:37 4.5	7:11 2.0	14:46 4.6	19:41 2.4						S	11	5:10 4.6	12:02 2.2	17:20 5.0						
	M	12	1:00 5.0	6:56 1.4	14:00 4.8	19:15 2.2					N	Th	12	4:05 4.3	8:11 2.1	16:41 4.8						S	12	0:30 1.3	5:30 5.2	12:50 1.8	17:56 5.6						
	Tu	13	2:21 4.7	7:54 1.5	15:42 5.0	20:16 2.0						F	13	0:00 1.9	5:17 4.7	12:20 2.0	17:31 5.8						M	13	1:15 0.8	6:28 5.8	13:35 1.5	18:35 6.3					
	W	14	4:10 4.8	8:49 1.5	16:52 5.4	21:21 1.8						S	14	0:50 1.4	6:00 5.3	13:10 1.7	18:15 6.0					●	Tu	14	2:00 0.5	7:02 6.2	14:15 1.2	19:10 6.7					
	Th	15	5:16 5.1	9:44 1.4	17:40 5.8					●	S	15	1:40 0.9	6:46 5.7	14:00 1.5	18:56 6.5						W	15	2:35 0.5	7:30 6.5	12:20 1.0	19:38 6.9						
	F	16	1:08 1.4	6:10 5.6	10:35 1.3	18:28 6.3						M	16	2:30 0.6	7:24 6.1	14:44 1.3	19:32 6.8					E	Th	16	0:42 0.4	7:58 6.6	12:40 0.8	20:05 6.9					
	●	S	17	2:00 1.0	6:57 5.8	11:25 1.2	19:11 6.7						Tu	17	3:12 0.6	7:56 6.3	12:30 1.3	20:04 6.9						F	17	1:05 0.4	8:20 6.5	13:10 0.8	20:30 6.6				
	S	18	2:50 0.7	7:38 6.1	12:07 1.3	19:49 6.8						W	18	1:22 0.7	8:27 5.3	13:00 1.3	20:31 6.7						S	18	1:33 0.5	8:45 6.3	13:40 0.7	20:55 6.3					
	M	19	3:36 0.7	8:15 6.1	12:45 1.4	20:25 6.7					A	Th	19	1:35 0.7	8:51 6.0	13:30 1.2	20:58 6.4						S	19	2:00 0.6	9:08 6.0	14:12 0.7	21:22 5.9					
	Tu	20	1:35 0.8	8:50 5.9	13:20 1.5	20:53 6.5					E	F	20	2:00 0.8	9:14 5.8	14:01 1.2	21:22 6.1						M	20	2:32 0.7	9:38 5.6	14:45 0.9	21:54 5.4					
A	W	21	2:00 1.1	9:19 5.6	13:46 1.6	21:22 6.2						S	21	2:30 0.8	9:40 5.5	14:31 1.2	21:47 5.8						Tu	21	3:04 1.0	10:10 5.2	15:25 1.1	22:30 4.9					
	Th	22	2:29 1.1	9:44 5.3	14:21 1.7	21:49 5.8						S	22	3:03 0.9	10:04 5.3	15:10 1.3	22:20 5.4					☾	W	22	3:44 1.3	10:48 4.8	16:10 1.4	23:12 4.4					
	F	23	3:00 1.2	10:10 5.0	14:55 1.7	22:18 5.5						M	23	3:40 1.0	10:40 5.0	15:50 1.4	22:57 5.0					S	Th	23	4:32 1.8	11:38 4.5	17:20 1.9						
	S	24	3:38 1.3	10:39 4.8	15:36 1.8	22:50 5.2					☾	Tu	24	4:24 1.3	11:20 4.7	16:46 1.7	23:39 4.5						F	24	0:12 8.9	5:45 2.2	12:50 4.2	18:38 2.2					
	S	25	4:20 1.3	11:09 4.6	16:29 1.9	23:31 4.9						W	25	5:20 1.7	12:18 4.5	17:51 2.0						S	25	1:57 3.8	7:10 2.4	14:52 4.3	20:06 2.0						
	M	26	5:10 1.5	12:02 4.5	17:27 2.0						Th	26	0:43 4.1	6:27 1.9	13:29 4.3	19:01 2.1						S	26	4:40 4.5	8:35 2.1	16:48 5.1	21:35 1.3						
	Tu	27	0:21 4.6	6:09 1.6	13:03 4.4	18:35 2.0					S	F	27	2:24 3.9	7:40 2.0	15:30 4.5	20:25 1.9						M	27	5:28 5.5	9:55 1.5	17:38 6.2	22:50 0.5					
	W	28	1:30 4.8	7:11 1.6	14:29 4.5	19:45 1.9						S	28	4:48 4.5	8:55 1.7	17:08 5.3	21:45 1.3						Tu	28	6:12 6.4	11:06 0.7	18:24 7.2						
	Th	29	3:12 4.2	8:16 1.5	16:09 4.9	20:53 1.7						S	29	5:48 5.4	10:09 1.3	17:59 6.3	23:00 0.6					☾	W	29	0:05 -0.2	6:52 7.2	12:04 0.0	19:05 7.9					
	S	F	30	4:56 4.7	9:19 1.3	17:21 5.6	22:02 1.2						M	30	6:31 6.3	11:15 0.7	18:45 7.2					E	Th	30	0:40 -0.7	7:28 7.8	12:48 -0.3	19:43 8.2					
S	S	31	5:57 5.4	10:21 1.0	18:16 6.5	23:07 0.6					○	Tu	31	0:11 -0.1	7:11 7.0	12:11 0.2	19:25 7.9																

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.										NOVEMBER.										DECEMBER.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 8.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.						FEBRUARY.						MARCH.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.						W. Mo.				
N	F 1	0:34	6:40	13:08	19:08	N	M 1	2:24	8:27	15:00	20:59	N	M 1	0:40	6:40	13:23	19:27
	S 2	4.1	21.7	4.8	22.3		Tu 2	5.1	21.3	4.9	21.8		Tu 2	6.8	19.8	6.8	19.8
	S 3	1:42	7:49	14:14	20:16		W 3	3:31	9:25	16:00	21:52		W 3	2:05	8:06	14:41	20:46
	M 4	4.0	22.3	4.2	23.0		Th 4	4.3	22.1	3.6	22:5		Th 4	6.8	20.0	5.9	20.6
	Tu 5	2:46	8:47	15:16	21:11		F 5	4:28	10:14	16:51	22:38		F 5	3:16	9:10	15:45	21:43
	W 6	3.3	23.0	3.4	23.7		S 6	3.2	23.1	2.3	23.2		S 6	5.5	21.2	4.2	21.7
	Th 7	3:44	9:38	16:11	22:01		M 8	5:15	10:55	17:36	23:20		M 8	4:13	9:59	16:35	22:28
	F 8	2.8	23.7	2.5	24.2		Tu 9	2.2	24.0	1.5	23.9		Tu 9	4.0	22.6	2.7	22.7
	S 9	4:37	10:24	17:01	22:45		W 10	1.9	24.7	1.0	24.1		W 10	5:00	10:39	17:18	23:05
	M 11	2.0	24.4	1.8	24.6		Th 11	6:35	12:05	18:51	24:1		Th 11	2.7	23.9	1.3	23.8
A	Tu 12	5:25	11:05	17:47	23:27	E	F 12	6:35	12:05	18:51	24:1	E	F 12	5:38	11:15	17:55	23:36
	W 13	1.8	24.8	1.4	24.8		S 13	2.0	25.0	1.0	24.5		S 13	1.8	24.9	0.5	24.5
	Th 14	6:08	11:43	18:29	24:1		M 15	0:25	7:06	12:35	19:23		M 15	6:11	11:45	18:27	24:1
	F 15	1.8	25.0	1.3	25.0		Tu 16	24.1	2.5	25.0	1.8		Tu 16	1.6	25.5	0.4	25.0
	S 16	0:05	6:48	12:19	19:07		W 17	0:54	7:35	13:04	19:50		W 17	0:04	6:41	12:13	18:56
	M 18	24.4	2.2	24.8	2.0		Th 18	24.1	8.3	25.0	2.5		Th 18	25.0	1.9	25.9	1.0
	Tu 19	0:38	7:25	12:53	19:43		F 19	1:21	7:56	13:35	20:16		F 19	0:30	7:08	12:39	19:20
	W 20	23.9	3.3	24.5	2.8		S 20	24.0	4.5	25.0	3.3		S 20	25.1	2.5	26.1	1.9
	Th 21	1:11	7:58	13:26	20:17		M 22	1:50	8:17	14:06	20:42		M 22	0:55	7:26	13:08	19:42
	F 22	23.3	4.3	24.0	3.8		Tu 23	24.0	5.0	24.6	4.1		Tu 23	25.3	3.3	26.1	2.8
C	M 23	1:45	8:27	14:00	20:49	C	W 24	2:22	8:43	14:40	21:10	C	W 24	1:21	7:46	13:37	20:05
	Tu 25	22.9	5.5	23.6	4.7		Th 25	23.7	5.3	24.0	5.8		Th 25	25.2	4.0	25.8	3.4
	W 26	2:20	8:56	14:37	21:24		F 26	3:00	9:14	15:21	21:47		F 26	1:51	8:10	14:10	20:32
	Th 27	22.3	6.3	23.0	5.3		S 27	23.0	5.6	23.0	5.2		S 27	25.0	4.2	25.0	4.0
	F 28	2:58	9:29	15:18	22:00		M 28	3:45	10:00	16:11	22:38		M 28	2:28	8:43	14:48	21:10
	S 29	21.8	7.0	22.2	5.9		Tu 29	22.0	6.1	21.8	6.1		Tu 29	24.2	4.8	23.9	5.0
	Th 30	3:42	10:05	16:06	22:46		W 30	4:42	11:00	17:17	23:43		W 30	3:10	9:27	15:36	21:55
	F 31	21.2	7.2	21.5	6.2		Th 31	20.9	7.0	20.5	7.1		Th 31	23.0	5.4	22.2	6.0
	M 1	4:36	10:57	17:03	23:40		M 1	5:58	12:23	18:40	24:1		M 1	4:04	10:27	16:40	23:01
	S 2	20.5	7.3	20.7	6.7		Tu 2	20.0	7.4	19.8	24:1		S 2	21.5	6.5	20.5	7.3
P	Th 3	5:41	12:01	18:13	24:1	P	W 3	1:09	7:24	13:58	20:09	P	W 3	5:16	11:51	18:08	24:1
	M 4	20.0	7.5	20.2	6.7		Th 4	7.5	20.0	6.9	20.5		Th 4	20.0	7.5	19.3	20.5
	Tu 5	0:45	6:55	13:16	19:29		W 5	2:38	8:40	15:16	21:14		W 5	0:35	6:50	13:35	19:45
	W 6	6.7	20.2	7.1	20.6		Th 6	6.7	21.8	5.0	22.2		Th 6	8.2	19.6	7.0	20.0
	Th 7	1:59	8:05	14:31	20:35		F 7	3:49	9:40	16:18	22:09		F 7	2:15	8:19	14:56	20:58
	F 8	6.2	21.0	6.1	21.8		S 8	4.5	23.9	2.9	24.4		S 8	7.1	21.8	5.0	21.9
	S 9	3:07	9:04	15:38	21:33		M 9	4:44	10:29	17:10	22:55		M 9	3:29	9:21	16:00	21:51
	M 10	5.3	22.5	4.5	23.2		Tu 10	2.3	26.0	0.5	26:3		Tu 10	4.7	23.8	2.2	24.3
	Tu 11	4:06	9:56	16:34	22:22		W 11	5:31	11:15	17:56	23:40		W 11	4:24	10:10	16:49	22:39
	W 12	4.0	24.2	2.9	24.8		Th 12	0.9	27.7	—1.1	27.8		Th 12	2.1	26.1	0.0	26.8
D	Th 13	4:59	10:45	17:25	23:10	D	F 13	6:16	11:59	18:38	24:1	D	F 13	5:11	10:56	17:34	23:21
	F 14	2.6	25.8	1.2	26.2		S 14	—0.2	28.8	—2.0	28.8		S 14	0.2	28.1	—1.9	28.1
	S 15	5:47	11:30	18:11	23:54		M 15	0:23	6:59	12:41	19:20		M 15	5:54	11:38	18:15	24:1
	M 16	1.3	27.0	0.1	27.0		Tu 16	28.8	—1.0	29.3	—2.0		Tu 16	—1.0	29.2	—2.8	29.2
	Tu 17	6:33	12:14	18:56	24:1		W 17	1:05	7:40	13:23	20:02		W 17	0:01	6:35	12:19	18:56
	W 18	0.8	27.8	—0.4	27.8		Th 18	28.3	—0.5	29.1	—1.4		Th 18	29.0	—1.6	29.9	—2.6
	Th 19	0:39	7:17	12:59	19:40		F 19	1:45	8:21	14:05	20:46		F 19	0:41	7:15	12:59	19:37
	F 20	27.2	0.8	28.0	—0.6		S 20	27.9	0.3	28.0	0.0		S 20	29.0	—1.1	29.5	—1.7
	S 21	1:24	8:00	13:43	20:26		M 21	2:29	9:05	14:50	21:31		M 21	1:20	7:55	13:40	20:19
	Tu 22	27.0	1.0	27.3	0.0		Tu 22	26.4	1.8	26.3	1.8		Tu 22	28.2	0.0	28.1	0.0
E	W 23	2:09	8:46	14:30	21:12	E	W 23	3:15	9:58	15:38	22:21	E	W 23	2:01	8:38	14:21	21:12
	Th 24	26.3	1.8	26.9	0.9		Th 24	24.6	3.5	24.1	3.8		Th 24	26.9	1.7	26.2	2.0
	F 25	2:56	9:33	15:18	22:01		F 25	4:06	10:49	16:38	23:24		F 25	2:45	9:26	15:07	21:52
	S 26	25.1	2.8	25.5	2.0		S 26	22.6	5.1	21.9	5.6		S 26	24.8	3.5	23.9	4.8
	Th 27	3:47	10:25	16:12	22:56		M 27	5:11	12:01	17:56	24:1		M 27	3:32	10:20	16:08	22:51
	F 28	23.8	4.0	23.9	3.5		Tu 28	20.7	6.3	20.0	20.0		Tu 28	22.5	5.3	21.2	6.4
	S 29	4:46	11:24	17:18	23:58		W 29	4:36	11:31	17:20	24:1		W 29	4:36	11:31	17:20	24:1
	M 30	22.3	5.0	22.2	4.7		Th 30	20.2	6.8	19.2	19.2		Th 30	0:10	6:04	12:54	19:00
	Tu 31	5:58	12:32	18:32	24:1		F 31	7.7	19.0	7.1	18.7		F 31	1:38	7:35	14:15	20:25
	W 1	1:10	7:14	13:47	19:50		S 1	7.5	19.1	6.3	19.7		S 1	7.5	19.1	6.3	19.7

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 13.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st. quar.; ○, full moon; ☾, 3d. quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.						MAY.						JUNE.					
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
W.	Mo.					W.	Mo.					W.	Mo.				
	Th 1	2:51	8:44	15:19	21:20		S 1	3:06	8:54	15:28	21:24		Tu 1	3:44	9:30	16:06	21:54
		6.2	20.9	4.8	21.0			5.6	21.9	8.9	21.8			4.7	23.3	3.3	22.2
	F 2	3:47	9:33	16:09	22:04	E	S 2	3:51	9:35	16:10	22:00	W	2	4:25	10:09	16:46	22:32
		4.7	22.2	3.1	22.3			4.2	23.2	2.7	23.1			3.8	24.2	2.9	23.4
A	S 3	4:31	10:12	16:50	22:38		M 3	4:30	10:10	16:46	22:31	Th	3	5:06	10:47	17:25	23:06
		3.1	23.7	1.8	23.7			3.2	24.4	1.9	24.3			3.0	25.0	2.5	23.6
	S 4	5:10	10:46	17:25	23:09		Tu 4	5:06	10:44	17:23	23:02	○	F 4	5:45	11:24	18:01	23:43
		2.0	24.9	0.7	24.6			2.3	25.2	1.3	25.2			2.8	25.7	2.8	23.9
E	M 5	5:41	11:18	17:57	23:35	○	W 5	5:39	11:15	17:55	23:32		S 5	6:20	12:01	18:40	
○		1.6	25.7	0.5	25.3			2.1	25.9	1.5	25.8			2.9	25.8	3.0	
	Tu 6	6:10	11:44	18:25			Th 6	6:08	11:46	18:23		S	S 6	0:20	7:00	12:41	19:18
		1.8	26.1	0.9				2.3	26.3	2.0				26.0	2.9	25.5	
	W 7	0:01	6:37	12:12	18:51		F 7	0:03	6:36	12:19	18:53	M	7	1:01	7:42	13:24	20:00
		25.9	2.1	26.5	1.8			26.1	2.9	26.3	2.9			25.8	3.1	24.9	1.2
	Th 8	0:29	6:59	12:41	19:14		S 8	0:36	7:08	12:54	19:24	Tu	8	1:45	8:29	14:11	20:47
		26.0	3.0	26.6	2.6			26.0	3.2	25.8	3.8			25.1	3.5	24.0	1.7
	F 9	0:57	7:21	13:11	19:40	S	S 9	1:11	7:42	13:31	19:58	W	9	2:34	9:20	15:02	21:39
		26.0	3.4	26.1	3.3			25.7	3.9	25.0	4.5			24.3	4.0	23.0	2.2
	S 10	1:29	7:50	13:46	20:09		M 10	1:58	8:25	14:15	20:40	Th	10	3:28	10:16	16:01	22:32
		25.6	4.0	25.2	4.1			24.8	4.5	23.8	5.5			23.3	4.2	22.0	2.7
	S 11	2:05	8:29	14:26	20:45		Tu 11	2:40	9:17	15:06	21:33	○	F 11	4:32	11:18	17:12	23:47
		24.7	4.6	24.0	5.0			23.6	5.2	22.3	6.5			22.5	4.6	21.5	3.2
S	M 12	2:48	9:14	15:15	21:34	○	W 12	3:35	10:20	16:11	22:44	E	S 12	5:42	12:24	18:26	
		23.3	5.4	22.3	6.2			22.2	6.0	20.9	7.2	P		22.0	4.3	21.6	
○	Tu 13	3:43	10:19	16:19	22:43		Th 13	4:45	11:34	17:33			S 13	0:53	6:54	13:30	19:38
		21.8	6.5	20.6	7.7			21.0	6.2	20.1				5.3	22.6	3.8	22.3
	W 14	4:55	11:40	17:48			F 14	0:05	6:07	12:51	18:58		M 14	2:00	8:01	14:32	20:35
		20.1	7.1	19.5				7.1	20.9	5.5	20.9			4.5	23.5	3.0	23.7
	Th 15	0:18	6:29	13:14	19:28		S 15	1:24	7:26	14:02	20:09	Tu	15	3:01	8:58	15:30	21:27
		8.1	20.0	6.5	20.1			6.1	22.1	4.0	22.6			3.3	24.5	2.1	24.5
	F 16	1:51	7:56	14:31	20:36	E	S 16	2:31	8:31	15:02	21:08	W	16	3:58	9:49	16:24	22:14
		7.0	21.7	4.6	22.2			4.3	24.0	2.2	24.2			2.3	25.1	1.4	25.1
	S 17	3:01	8:59	15:31	21:30	P	M 17	3:30	9:28	15:55	21:50	●	Th 17	4:50	10:35	17:15	22:58
		4.7	24.0	2.1	24.5			2.6	25.8	0.8	25.9			1.5	25.7	1.0	25.7
P	S 18	3:58	9:48	16:23	22:15		Tu 18	4:20	10:09	16:45	22:33		F 18	5:38	11:20	18:01	23:49
		2.1	26.2	0.0	26.4			1.1	26.9	-0.2	27.0	N	S 19	1.1	25.9	1.0	25.9
	M 19	4:45	10:33	17:09	22:58	●	W 19	5:07	10:53	17:30	23:15			6:24	12:01	18:46	
●		0.3	28.0	-1.5	28.0			0.1	27.6	-0.6	27.5			1.1	25.3	1.7	
	Tu 20	5:30	11:16	17:51	23:38		Th 20	5:51	11:35	18:14	23:55		S 20	0:20	7:09	12:42	19:22
		-0.9	29.0	-2.0	28.8			0.0	27.7	-0.2	27.2			25.3	1.6	24.7	2.7
	W 21	6:11	11:56	18:33			F 21	6:35	12:15	18:58			M 21	1:00	7:50	13:22	20:16
		-1.1	29.1	-1.9				0.3	27.1	0.8				24.9	2.4	23.7	3.4
	Th 22	0:16	6:54	12:35	19:14	N	S 22	0:35	7:19	12:56	19:40	Tu	22	1:40	8:33	14:08	20:51
		28.6	-0.8	28.8	-0.7			26.6	1.1	26.0	2.0			24.0	3.3	22.8	1.9
	F 23	0:55	7:34	13:15	19:55		S 23	1:15	8:02	13:37	20:24	W	23	2:20	9:15	14:45	21:31
		27.8	0.4	27.3	1.0			25.5	2.5	24.4	3.7			28.1	4.2	21.7	6.0
	S 24	1:36	8:16	13:56	20:40		M 24	1:58	8:50	14:21	21:10	Th	24	3:02	9:59	15:30	22:13
		26.3	2.1	25.5	3.0			24.0	3.9	22.8	6.1			22.2	5.1	20.8	6.9
N	S 25	2:19	9:04	14:41	21:28		Tu 25	2:41	9:39	15:10	22:00	A	F 25	3:50	10:44	16:20	23:01
		24.5	3.9	23.2	5.0			22.6	5.0	21.0	6.7	D		21.2	5.9	20.0	7.4
	M 26	3:05	9:59	15:34	22:25		W 26	3:33	10:34	16:08	23:00	E	S 26	4:44	11:34	17:20	23:58
		22.5	5.4	21.0	6.9			21.1	6.1	19.7	7.5			20.6	6.4	19.6	
D	Tu 27	4:03	11:03	16:45	23:39	D	Th 27	4:36	11:35	17:21			S 27	5:15	12:28	18:25	
		20.5	6.7	19.0	7.9			20.0	6.7	18.8				20.0	6.6	19.7	
	W 28	5:22	12:19	18:18		A	F 28	0:02	5:48	12:38	18:38	M	28	0:51	6:50	13:25	19:3
		19.1	7.0	18.2				7.9	19.2	6.7	18.9			7.7	20.2	6.2	20.2
	Th 29	0:58	6:50	13:35	19:43		S 29	1:08	6:58	13:38	19:43	Tu	29	1:53	7:55	14:25	20:2
		8.0	19.0	6.5	19.0			7.5	19.9	6.1	20.0			7.0	21.0	5.9	21.1
A	F 30	2:10	8:01	14:36	20:41	E	S 30	2:06	8:00	14:33	20:31	W	30	2:50	8:48	15:20	21:13
		7.0	20.2	5.3	20.5			6.8	21.0	5.1	21.1			6.1	22.0	5.1	22.1
							M 31	2:58	8:48	15:22	21:14						
								5.9	22.1	4.1	22.2						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 13.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.										AUGUST.										SEPTEMBER.													
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.										
	W.	Mo.									W.	Mo.									W.	Mo.											
O	Th	1	3:49	9:37	16:13	21:59				○	S	1	5:06	10:50	17:30	23:10				P	W	1	6:16	12:01	18:35								
			4.9	22.9	4.3	23.4							2.4	24.9	2.6	25.8				E	Th	2	0:18	6:58	12:42	19:16							
	F	2	4:38	10:21	17:01	22:43					M	2	5:54	11:36	18:15	23:54							28.9	—1.6	28.2	—0.3							
	S	3	5:25	11:06	17:46	23:25					Tu	3	6:38	12:20	18:58							F	3	1:00	7:40	13:23	19:57						
	S	4	6:10	11:49	18:28					P	W	4	0:38	7:21	13:02	19:40						S	4	1:41	8:21	14:05	20:41						
P	M	5	2.0	25.5	2.8								27.7	—0.3	26.9	1.0							28.3	—0.2	26.9	1.4							
			0:08	6:54	12:32	19:11					Th	5	1:21	8:05	13:46	20:23						S	5	2:25	9:08	14:50	21:29						
			26.2	1.8	25.8	2.7				E	F	6	2:06	8:50	14:31	21:08						☾	M	6	3:13	9:56	15:40	22:22					
	Tu	6	0:51	7:37	13:16	19:55							27.4	0.3	25.9	2.0							25.0	3.1	23.5	4.5							
	W	7	1:37	8:22	14:02	20:41					S	7	2:51	9:35	15:19	21:56							Tu	7	4:09	10:55	16:42	23:29					
E			26.3	1.8	25.1	3.1							26.3	1.4	24.8	3.2						N	W	8	5:25	12:07	18:04						
	Th	8	2:24	9:10	14:51	21:30				☾	S	8	3:41	10:25	16:12	22:50									6.2	20.2							
			25.8	2.1	24.4	3.7							24.9	2.8	23.3	4.3							Th	9	0:47	6:50	13:27	19:31					
	F	9	3:13	10:00	15:44	22:21					M	9	4:40	11:23	17:17	23:53									6.3	20.0	6.5	20.3					
	S	10	4:11	10:54	16:44	23:18					Tu	10	5:51	12:30	18:32									F	10	2:08	8:14	14:45	20:43				
N			24.0	3.2	22.6	4.7							21.8	5.1	21.1										5.7	20.7	5.5	21.4					
	S	11	5:14	11:54	17:51						W	11	1:06	7:09	13:44	19:47								S	11	3:16	9:19	15:47	21:37				
			23.0	3.9	22.0								5.7	21.2	5.5	21.2									4.3	21.8	4.1	22.7					
	M	12	0:21	6:21	12:58	19:02				N	Th	12	2:23	8:27	14:59	20:57								S	12	4:11	10:07	16:37	22:20				
			5.1	22.4	4.2	21.9							5.1	21.7	5.0	21.9									2.8	22.8	2.7	23.9					
●	Tu	13	1:30	7:31	14:05	20:10					F	13	3:30	9:29	16:01	21:50								M	13	4:57	10:47	17:20	23:58				
			5.0	22.3	4.2	22.5							4.1	22.3	3.8	22.9									1.3	23.8	1.7	24.9					
	W	14	2:39	8:40	15:11	21:10					S	14	4:28	10:19	16:55	22:28							●	Tu	14	5:36	11:21	17:55	23:31				
			4.4	22.8	3.8	23.0							2.8	23.1	2.7	23.8									0.5	24.5	1.3	25.5					
	Th	15	3:43	9:37	16:11	22:00				●	S	15	5:18	11:04	17:40	23:18								W	15	6:12	11:50	18:28	23:59				
A			3.4	23.4	3.0	23.7							1.7	23.8	1.9	24.6									0.3	24.8	1.7	25.8					
	F	16	4:38	10:26	17:05	22:48					M	16	6:00	11:42	18:20	23:53							E	Th	16	6:42	12:16	18:55					
			2.4	24.0	2.2	24.3							0.9	24.1	1.7	25.0									0.9	24.9	2.4						
	S	17	5:29	11:12	17:53	23:30					Tu	17	6:38	12:15	18:56											0:26	7:08	12:41	19:16				
			1.7	24.4	1.9	24.7							0.8	24.3	2.0											25.8	2.0	25.0	3.6				
D	S	18	6:14	11:53	18:36						W	18	0:25	7:12	12:44	19:27										0:53	7:30	13:07	19:32				
			1.2	24.3	1.9								25.1	1.2	24.2	2.9										25.7	3.0	24.8	4.3				
	M	19	0:08	6:57	12:31	19:15				A	Th	19	0:55	7:43	13:12	19:52										1:20	7:52	13:35	19:55				
			24.9	1.5	24.0	2.5				E			25.1	2.0	24.1	3.9										25.3	3.9	24.6	4.7				
	Tu	20	0:44	7:35	13:06	19:52					F	20	1:24	8:10	13:40	20:14										1:52	8:17	14:09	20:26				
E			24.8	1.9	23.7	3.3							25.0	3.1	23.9	4.8										24.7	4.5	24.0	5.0				
	W	21	1:19	8:10	13:40	20:25					S	21	1:54	8:34	14:10	20:36											2:28	8:48	14:49	21:08			
			24.5	2.8	23.2	4.4							24.7	4.0	23.7	5.4										23.7	5.1	23.0	5.6				
	Th	22	1:54	8:44	14:14	20:55					S	22	2:26	9:00	14:45	21:04											3:13	9:31	15:40	22:03			
			24.0	3.7	22.8	5.5							24.0	4.8	23.1	5.7										22.5	6.1	21.7	6.4				
S	F	23	2:28	9:18	14:49	21:24					M	23	3:04	9:33	15:26	21:45											4:12	10:32	16:46	23:20			
			23.5	4.5	22.3	6.1							23.2	5.3	22.3	6.0											20.8	7.3	20.3	7.3			
	S	24	3:06	9:51	15:28	21:58				☾	Tu	24	3:50	10:16	16:17	22:39											5:32	11:57	18:11				
			22.9	5.2	21.8	6.7							22.0	6.1	21.2	6.7										19.5	8.1	19.5					
	S	25	3:50	10:29	16:15	22:39					W	25	4:50	11:12	17:24	23:51											0:57	7:08	13:34	19:43			
D			22.0	5.9	21.0	7.0							20.7	7.0	20.2	7.3										7.2	19.7	7.7	20.9				
	M	26	4:40	11:16	17:11	23:33					Th	26	5:06	12:31	18:45												2:22	8:30	14:54	20:52			
			21.2	6.4	20.3	7.3							19.8	7.8	19.6											5.6	21.4	5.6	23.3				
	Tu	27	5:41	12:14	18:20					s	F	27	1:21	7:35	14:01	20:10											3:26	9:25	15:53	21:45			
			20.3	6.9	20.0								7.2	19.9	7.4	20.8											3.2	23.7	3.3	25.5			
S	W	28	0:42	6:54	13:23	19:33					S	28	2:46	8:48	15:18	21:13											4:20	10:12	16:43	22:30			
			7.4	20.0	7.0	20.1							6.0	21.3	5.8	22.8											0.9	26.0	1.1	27.6			
	Th	29	2:00	8:10	14:36	20:40					S	29	3:51	9:45	16:19	22:05											5:06	10:55	17:28	23:13			
			7.0	20.7	6.6	21.2							3.8	23.8	3.8	24.9											—1.0	27.7	—0.2	28.9			
	F	30	3:11	9:10	15:43	21:34					M	30	4:45	10:34	17:09	22:58											5:50	11:37	18:10	23:54			

OCTOBER.										NOVEMBER.										DECEMBER.											
Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.						Moon.		Day of—		Time and Height of High and Low Water.							
W.	Mo.									W.	Mo.									W.	Mo.										
	F	1		6:31	12:17	18:49					M	1		0:53	7:33	13:14	19:56				W	1		1:19	8:04	13:39	20:20				
				—2.0	29.0	—0.7								27.7	0.8	26.7	1.8							25.0	3.0	24.7	21.3				
	S	2		0:35	7:13	12:57	19:31				N	Tu	2		1:36	8:19	13:59	20:46				Th	2		2:08	8:58	14:24	21:07			
				29.5	—1.5	28.5	0.0							25.8	2.8	25.0	3.3							23.3	4.5	23.3	4.3				
	S	3		1:16	7:55	13:38	20:15					W	3		2:21	9:10	14:46	21:40				F	3		2:52	9:45	15:15	21:30			
				28.5	0.0	27.3	1.5							23.7	4.7	23.0	4.9							21.7	6.0	21.7	5.7				
	M	4		1:59	8:40	14:22	21:04				☾	Th	4		3:15	10:09	15:43	22:46			☾	S	4		3:50	10:43	16:18	22:30			
				26.7	2.0	25.4	3.1							21.5	6.2	21.0	6.0							20.0	6.9	20.4	6.0				
	Tu	5		2:45	9:30	15:10	22:00					F	5		4:26	11:20	17:01	23:59				S	5		5:01	11:46	17:30				
				24.4	4.0	23.2	4.9							19.5	7.2	19.7	6.4							19.0	7.3	19.7					
N	W	6		3:40	10:30	16:13	23:08					S	6		5:58	12:38	18:28					M	6		6:20	6:19	12:51	19:40			
☾				22.0	5.7	21.1	6.1							18.8	7.2	19.5								6.2	19.0	7.2	19.3				
	Th	7		4:57	11:44	17:37						S	7		1:11	7:20	13:45	19:40			E	Tu	7		1:20	7:25	13:49	19:40			
				19.8	7.0	19.8								6.0	19.4	6.5	20.5							6.0	19.7	6.6	20.5				
	F	8		0:27	6:31	13:11	19:05					M	8		2:14	8:23	14:44	20:36				W	8		2:16	8:19	14:42	20:34			
				6.5	19.2	6.8	19.7							4.9	20.9	5.2	22.2								5.2	20.9	5.7	21.9			
	S	9		1:47	7:59	14:25	20:20				A	Tu	9		3:06	9:08	15:31	21:20				Th	9		3:06	9:01	15:30	21:19			
				5.8	20.0	5.9	21.0							3.7	22.2	4.0	23.4								4.4	22.0	4.7	22.9			
	S	10		2:52	8:59	15:21	21:13				E	W	10		3:50	9:44	16:13	21:56				F	10		3:51	9:40	16:13	21:56			
				4.4	21.5	4.4	22.7							2.5	23.2	3.0	24.4								3.7	22.9	3.9	23.7			
	M	11		3:44	9:44	16:09	21:55					Th	11		4:30	10:17	16:49	22:29				S	11		4:33	10:15	16:52	22:30			
				2.9	22.7	3.0	24.0							1.8	24.2	2.5	25.0								3.2	24.0	3.3	24.3			
	Tu	12		4:28	10:20	16:49	22:30					F	12		5:07	10:48	17:24	23:00			●	S	12		5:11	10:51	17:30	23:00			
				1.5	23.8	2.0	25.0							1.5	24.9	2.3	25.4								3.0	24.7	3.0	25.0			
E	W	13		5:06	10:53	17:23	23:01			●		S	13		5:40	11:17	17:53	23:30				M	13		5:48	11:26	18:05	23:30			
●				0.6	24.7	1.5	25.6							1.9	25.3	2.7	25.7								3.0	25.2	3.0	25.7			
	Th	14		5:40	11:20	17:56	23:30					S	14		6:09	11:46	18:21				S	Tu	14		6:21	12:01	18:41				
				0.5	25.1	1.7	26.0							2.5	25.5	3.3									3.5	25.6	3.2				
	F	15		6:11	11:45	18:23	23:57					M	15		0:01	6:35	12:16	18:50				W	15		0:21	6:57	12:40	19:20			
				1.1	25.2	2.4	26.0							25.6	3.5	25.5	3.9								25.1	3.9	25.5	3.4			
	S	16		6:37	12:12	18:45						Tu	16		0:33	7:04	12:50	19:21				Th	16		1:01	7:34	13:20	19:54			
				2.1	25.5	3.4								25.2	4.3	25.1	4.4								24.7	4.5	25.2	4.7			
	S	17		0:24	6:59	12:39	19:08				S	W	17		1:09	7:32	13:28	20:00				F	17		1:44	8:17	14:05	20:50			
				25.9	3.2	25.3	4.0							24.5	5.1	24.5	4.9								24.2	5.1	24.6	4.7			
	M	18		0:54	7:23	13:08	19:31					Th	18		1:50	8:11	14:12	20:49				S	18		2:31	9:06	14:55	21:40			
				25.4	4.0	25.0	4.5							23.7	5.9	23.6	5.5								23.3	5.6	23.7	4.9			
	Tu	19		1:25	7:47	13:43	20:06					F	19		2:38	9:01	15:04	21:50				S	19		3:25	10:00	15:53	22:40			
				24.7	4.8	24.4	5.0							22.4	6.7	22.5	6.0								22.3	6.0	22.8	4.9			
S	W	20		2:02	8:21	14:24	20:50				☽	S	20		3:37	10:07	16:09	22:59			☽	M	20		4:30	11:04	17:00	23:40			
				23.7	5.5	23.3	5.7							21.2	7.3	21.3	6.3								21.5	6.2	22.0	5.0			
	Th	21		2:50	9:06	15:16	21:49					S	21		4:52	11:25	17:27				☽	Tu	21		5:42	12:11	18:14				
				22.4	6.6	21.9	6.5							20.2	7.5	20.7									21.2	6.0	21.9				
D	F	22		3:49	10:12	16:22	23:08					M	22		0:13	6:17	12:45	18:49				W	22		0:51	6:55	13:21	19:20			
				20.8	7.7	20.5	7.2							6.0	20.5	6.6	21.7								4.5	21.7	5.2	22.6			
	S	23		5:10	11:38	17:49					E	Tu	23		1:25	7:33	13:55	19:57				Th	23		1:58	8:04	14:28	20:30			
				19.6	8.2	19.9								4.5	21.9	5.0	23.4								3.8	23.0	4.2	23.8			
	S	24		0:37	6:45	13:13	19:16					W	24		2:29	8:33	14:55	20:55				F	24		3:00	9:00	15:28	21:25			
				6.8	19.9	7.3	21.1							3.0	23.9	3.8	25.2								2.9	24.0	2.9	24.9			
	M	25		1:57	8:04	14:28	20:27				P	Th	25		3:25	9:23	15:49	21:43				S	25		3:56	9:50	16:24	22:14			
				5.0	21.8	5.2	23.5							1.4	25.5	1.7	26.6								1.9	25.0	1.8	25.7			
	Tu	26		3:00	9:00	15:26	21:20					F	26		4:16	10:08	16:38	22:28				☉	S	26		4:50	10:36	17:14	23:00		
				2.8	24.0	3.0	25.8							0.2	26.8	0.6	27.5								1.0	25.9	1.0	26.2			
E	W	27		3:53	9:48	16:15	22:16				☉	S	27		5:08	10:50	17:25	23:11			N	M	27		5:39	11:20	18:01	23:40			
				0.7	26.2	1.0	27.6							—0.3	27.6	0.0	27.8								0.7	26.3	0.5	26.1			
P	Th	28		4:39	10:31	17:00	22:49					S	28		5:49	11:32	18:11	23:53				Tu	28		6:25	12:02	18:47				
☾				—0.9	27.8	—0.3	28.7							—0.4	27.7	0.1	27.5								1.0	26.2	0.8				
	F	29		5:25	11:12	17:45	23:30					N	M	29		6:34	12:14	18:56				W	29		0:25	7:08	12:42	19:30			
				—1.8	28.7	—0.9	29.2							0.3	27.2	—0.9									25.5	1.8	25.8	1.4			
	S	30		6:08	11:53	18:27						Tu	30		0:35	7:18	12:56	19:42				Th	30		1:05	7:51	13:23	20:1			

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
N	F	1	0:41 1.2	7:32 9.3	13:02 1.8	19:52 9.8	M	M	1	2:10 2.1	9:05 9.1	14:10 2.3	21:37 9.3	N	M	1	0:34 2.0	7:28 8.9	13:02 2.3	20:04 8.9												
	S	2	1:42 1.5	8:33 9.3	14:05 2.0	20:55 9.8		Tu	2	3:15 2.3	10:05 9.4	15:45 2.2	22:38 9.5		Tu	2	1:37 2.5	8:36 8.9	14:13 2.6	21:17 8.9												
	S	3	2:43 1.7	9:33 9.5	15:07 1.8	21:57 10.0		W	3	4:13 2.2	11:00 9.8	16:45 1.9	23:33 9.8		W	3	2:45 2.8	9:40 9.1	15:24 2.6	22:23 9.0												
	M	4	3:42 1.7	10:28 9.8	16:07 1.6	22:55 10.2		Th	4	5:06 1.9	11:47 10.2	17:35 1.5			Th	4	3:50 2.7	10:37 9.5	16:26 2.3	23:17 9.4												
	Tu	5	4:36 1.5	11:18 10.2	17:00 1.3	23:47 10.4		○ F	5	0:20 10.0	5:51 1.6	12:30 10.6	18:20 1.1		F	5	4:43 2.3	11:27 10.0	17:16 1.8													
	W	6	5:20 1.3	12:04 10.5	17:49 0.9			S	6	1:02 10.2	6:30 1.3	13:10 10.8	18:59 0.7		S	6	0:02 9.7	5:28 1.9	12:08 10.5	18:00 1.3												
	Th	7	0:38 10.8	6:08 1.1	12:47 10.8	18:35 0.7		○ A S	7	1:40 10.2	7:06 1.1	13:46 10.9	19:36 0.5		○ A S	7	0:40 10.0	6:05 1.5	12:47 10.8	18:35 0.9												
	F	8	1:17 10.5	6:50 1.0	13:27 10.8	19:17 0.5		A M	8	2:13 10.1	7:42 0.9	14:21 10.8	20:10 0.4		M	8	1:14 10.1	6:41 1.1	13:21 10.9	19:09 0.5												
	S	9	1:58 10.3	7:28 0.9	14:08 10.8	19:57 0.5		Tu	9	2:45 9.9	8:16 0.8	14:57 10.6	20:47 0.3		E Tu	9	1:44 10.1	7:15 0.8	13:54 10.9	19:42 0.3												
	A	S	10	2:37 10.1	8:06 1.0	14:46 10.6		20:35 0.5	E W	10	3:18 9.7	8:53 0.9	15:30 10.3		21:22 0.5	W	10	2:13 10.1	7:48 0.6	14:26 10.7	20:17 0.2											
M		11	3:15 9.8	8:45 1.1	15:24 10.3	21:15 0.7	Th	11	3:50 9.5	9:30 1.0	16:05 9.9	22:02 0.7	Th	11	2:43 10.0	8:23 0.5	14:59 10.4	20:52 0.3														
Tu		12	3:52 9.4	9:23 1.3	16:04 9.9	21:55 0.9	F	12	4:27 9.2	10:10 1.3	16:44 9.4	22:44 1.1	F	12	3:17 9.8	9:02 0.6	15:33 10.1	21:30 0.5														
W		13	4:31 9.1	10:02 1.5	16:43 9.5	22:38 1.1	○ S	13	5:09 8.9	10:56 1.6	17:28 9.0	23:30 1.5	S	13	3:53 9.5	9:42 0.9	16:11 9.6	22:11 0.9														
Th		14	5:12 8.8	10:46 1.8	17:27 9.1	23:22 1.5	S	14	6:00 8.5	11:48 1.9	18:26 8.5		S	14	4:34 9.2	10:28 1.3	16:56 9.1	22:57 1.4														
F		15	5:57 8.5	11:33 2.0	18:17 8.8		M	15	0:22 1.9	7:03 8.3	12:50 2.2	19:36 8.3	○ C M	15	5:25 8.7	11:20 1.7	17:52 8.5	23:52 1.9														
S		16	0:10 1.8	6:50 8.3	12:27 2.2	19:15 8.5	Tu	16	1:25 2.2	8:17 8.4	14:59 2.3	20:53 8.5	S Tu	16	6:31 8.4	12:23 2.1	19:09 8.2															
S		17	1:04 2.0	7:50 8.3	13:27 2.3	20:18 8.5	W	17	2:33 2.2	9:30 8.9	15:10 2.0	22:05 8.9	W	17	0:50 2.3	7:49 8.4	13:35 2.2	20:32 8.4														
M		18	2:02 2.0	8:55 8.5	14:32 2.2	21:23 8.8	Th	18	3:38 1.9	10:32 9.6	16:16 1.4	23:06 9.6	Th	18	2:07 2.4	9:05 8.9	14:48 2.0	21:45 8.9														
S		Tu	19	3:04 1.9	9:56 9.0	15:36 1.8	22:27 9.2	F	19	4:40 1.3	11:27 10.5	17:15 0.6	23:59 10.4	F	19	3:17 2.0	10:10 9.8	15:57 1.4	22:47 9.7													
	W	20	4:04 1.6	10:53 9.7	16:37 1.3	23:23 9.8	● P S	20	5:35 0.7	12:16 11.3	18:08 -0.2		S	20	4:20 1.4	11:05 10.7	16:56 0.5	23:38 10.5														
	Th	21	5:00 1.1	11:45 10.4	17:33 0.6		○ S	21	0:47 11.0	6:25 0.1	13:02 12.0	18:57 -0.8	● P S	21	5:15 0.7	11:55 11.5	17:47 -0.2															
	● F	22	0:15 10.4	5:55 0.6	12:34 11.0	18:24 0.0	M	22	1:32 11.4	7:12 -0.4	13:46 12.3	19:43 -1.1	● E M	22	0:26 11.2	6:04 -0.1	12:41 12.2	18:36 -0.8														
	P S	23	1:03 10.8	6:43 0.2	13:18 11.5	19:13 -0.5	Tu	23	2:17 11.6	7:57 -0.6	14:30 12.4	20:28 -1.2	Tu	23	1:10 11.6	6:50 -0.5	13:24 12.5	19:20 -1.2														
	S	24	1:50 11.1	7:30 -0.1	14:05 11.8	20:00 -0.8	W	24	3:00 11.5	8:40 -0.6	15:15 12.1	21:13 -0.9	W	24	1:52 11.8	7:38 -0.8	14:08 12.5	20:04 -1.2														
	M	25	2:36 11.2	8:17 -0.2	14:52 11.8	20:48 -0.8	Th	25	3:45 11.2	9:25 -0.2	16:03 11.6	21:58 -0.4	Th	25	2:34 11.7	8:17 -0.8	14:53 12.2	20:47 -0.9														
	E Tu	26	3:35 11.1	9:02 -0.1	15:39 11.6	21:36 -0.6	F	26	4:32 10.6	10:12 0.3	16:53 10.9	22:47 0.3	F	26	3:18 11.2	9:01 -0.4	15:40 11.6	21:32 -0.7														
	W	27	4:12 10.8	9:50 0.2	16:27 11.2	22:25 -0.2	○ S	27	5:23 10.0	11:03 0.9	17:48 10.1	23:38 1.2	S	27	4:08 10.7	9:47 0.1	16:29 10.8	22:18 0.5														
	D	Th	28	5:02 10.3	10:40 0.7	17:20 10.7	23:16 0.4	○ S	28	6:21 9.3	11:58 1.7	18:52 9.4		○ D S	28	4:54 10.0	10:37 0.9	17:24 9.9	23:08 1.4													
F		29	5:55 9.8	11:32 1.2	18:17 10.1								M	29	5:51 9.8	11:32 1.6	18:28 9.1															
S		30	0:10 1.1	6:56 9.3	12:28 1.7	19:21 9.6							Tu	30	0:02 2.2	6:56 8.4	12:35 2.3	19:40 8.7														
S		31	1:08 1.7	8:00 9.1	13:31 2.1	20:29 9.4							W	31	1:05 2.7	8:05 8.8	13:44 2.7	20:53 8.6														

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (−) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil: 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, F, moon in apogee or perigee.

APRIL.										MAY.										JUNE.															
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.										
	W.	Mo.										W.	Mo.										W.	Mo.											
A	Th	1	2:12	9:12	14:55	21:57					S	1	2:33	9:30	15:13	22:10						Tu	1	3:30	10:22	16:00	22:48								
			3.0	9.0	2.7	8.8								2.9	9.3	2.5	8.9								2.2	9.5	1.8	8.9							
	F	2	3:17	10:09	15:57	22:50					E	S	2	3:29	10:20	16:02	22:52						W	2	4:18	11:06	16:44	23:22							
			2.9	9.4	2.5	9.1								2.6	9.6	2.1	9.2								1.8	9.8	1.4	9.2							
	S	3	4:11	10:58	16:45	23:32					M	3	4:15	11:04	16:45	23:30							Th	3	5:06	11:49	17:28								
E			2.6	9.9	2.0	9.5								2.1	10.0	1.6	9.5								1.3	10.0	1.0								
	S	4	4:56	11:40	17:26						Tu	4	4:57	12:42	17:23								○	F	4	0:06	5:48	12:31	18:11						
			2.1	10.3	1.5									1.6	10.2	1.2									0:06	5:48	12:31	18:11							
	M	5	0:08	5:35	12:17	18:02					○	W	5	0:04	5:37	12:20	18:02									0:48	6:33	13:12	18:54						
			9.8	1.6	10.6	1.0								9.8	1.1	10.4	0.8									10.2	0.5	10.3	0.5						
○	Tu	6	0:40	6:10	12:52	18:36					Th	6	0:37	6:15	12:55	18:40							S	S	6	1:28	7:18	13:55	19:38						
			10.0	1.1	10.8	0.6								10.0	0.7	10.5	0.5									10.4	0.3	10.3	0.5						
	W	7	1:11	6:45	13:26	19:10					F	7	1:12	6:55	13:33	19:17										2:13	8:06	14:42	20:25						
			10.1	0.7	10.8	0.3								10.2	0.4	10.5	0.3									10.4	0.2	10.1	0.5						
	Th	8	1:42	7:20	13:58	19:46					S	S	8	1:48	7:36	14:12	19:58										3:00	8:53	15:32	21:11					
S			10.2	0.4	10.7	0.2								10.2	0.3	10.3	0.4									10.3	0.3	9.9	0.5						
	F	9	2:13	7:58	14:33	20:23					S	S	9	2:28	8:18	14:53	20:40										3:48	9:45	16:23	22:06					
			10.1	0.3	10.4	0.3								10.1	0.3	10.0	0.6										10.1	0.5	9.7	1.1					
	S	10	2:48	8:37	15:10	21:02					M	10	3:11	9:04	15:38	21:26											4:42	10:38	17:22	22:57					
			10.0	0.4	10.1	0.5								9.9	0.5	9.7	1.0										9.9	0.7	9.4	1.5					
C	S	11	3:27	9:20	15:50	21:45					Tu	11	3:58	9:55	16:32	22:17											5:40	11:35	18:23	23:56					
			9.7	0.6	9.6	0.9								9.6	0.8	9.3	1.4										9.8	1.0	9.2	1.7					
	M	12	4:11	10:07	16:38	22:33					○	W	12	4:54	10:50	17:33	23:14										6:42	12:35	19:26						
			9.3	1.1	9.1	1.4								9.3	1.2	8.9	1.8										9.7	1.2	9.2						
	Tu	13	5:04	11:02	17:39	23:29					Th	13	5:58	11:50	18:42													0:57	7:45	13:37	20:22				
P			8.9	1.5	8.6	1.9								9.1	1.5	8.7											1.8	9.8	1.3	9.4					
	W	14	6:12	12:05	18:54						F	14	0:15	7:06	12:58	19:53											2:00	8:47	14:38	21:26					
			8.6	1.9	8.4									2.1	9.2	1.6	8.8										1.8	10:0	1.2	9.7					
	Th	15	0:34	7:28	13:15	20:14					S	15	1:22	8:14	14:03	20:58												3:00	9:46	15:35	22:20				
			2.3	3.7	2.0	8.5								2.1	9.5	1.5	9.3										1.5	10.3	1.1	10.1					
E	F	16	1:45	8:40	14:27	21:24					E	S	16	2:28	9:17	15:07	21:56										3:58	10:43	16:30	23:10					
			2.3	9.2	1.8	9.0								1.8	10.1	1.1	9.8										1.2	10.6	0.9	10.4					
	S	17	2:54	9:45	15:33	22:23					M	17	3:28	10:12	16:03	22:47											4:52	11:35	17:20	23:57					
			2.0	10.0	1.2	9.8								1.4	10.7	0.7	10.4										0.8	10.9	0.7	10.5					
	S	18	3:56	10:40	16:30	23:14					Tu	18	4:23	11:05	16:57	23:36												5:42	12:25	18:07					
N			1.4	10.8	0.5	10.5								0.8	11.2	0.2	10.8										0.4	11.00	0.5						
	M	19	5:50	11:30	17:22						●	W	19	5:14	11:54	17:43												0:43	6:30	13:12	18:52				
			0.7	11.5	—0.1									0.3	11.6	—0.1												11.0	0.3	11.0	0.5				
	Tu	20	0:00	5:38	12:17	18:10					Th	20	0:20	6:02	12:40	18:30												1:27	7:17	13:58	19:38				
			11.1	0.0	12.0	—0.6								11.2	—0.1	11.8	—0.2											11.1	0.1	10.8	0.6				
D	W	21	0:44	6:25	13:01	18:54					F	21	1:03	6:48	13:27	19:13											2:12	8:02	14:44	20:17					
			11.5	—0.5	12.3	—0.9								11.3	—0.3	11.7	—0.2											11.0	0.2	10.5	0.9				
	Th	22	1:27	7:10	13:45	19:37					N	S	22	1:46	7:33	14:14	19:57											2:55	8:46	15:32	21:06				
			11.7	—0.7	12.2	—0.8								11.3	—0.3	11.4	0.1											10.8	0.4	10.1	1.0				
	F	23	2:09	7:54	14:32	20:22					S	23	2:30	8:20	15:00	20:41												3:40	9:32	16:14	21:45				
A			11.5	—0.7	11.9	—0.5								11.0	—0.1	10.8	0.5											10.4	0.7	9.6	1.4				
	S	24	2:52	8:38	15:19	21:07					M	24	3:17	9:07	15:50	21:25												4:25	10:15	17:00	22:57				
			11.2	—0.3	11.2	0.1								10.7	0.3	10.3	1.0											10.0	1.0	9.2	1.5				
	S	25	3:37	9:25	16:08	21:52					Tu	25	4:05	9:54	16:40	22:11												5:12	11:03	17:48	23:33				
			10.6	0.2	10.5	0.8								10.2	0.8	9.6	1.6											9.6	1.4	8.8	2.1				
D	M	26	4:28	10:15	17:02	22:38					W	26	4:55	10:45	17:35	23:00												6:04	11:50	18:37					
			10.0	0.8	9.7	1.5								9.7	1.3	9.0	2.1											9.2	1.8	8.6					
	Tu	27	5:23	11:08	18:02	23:32					Th	27	5:50	11:37	18:33	23:51												0:00	6:54	12:38	19:29				

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
u C	Th	1	8:40 1.9	10:32 9.3	16:07 1.7	22:57 9.4	○ S	1	5:07 1.0	11:52 9.9	17:25 1.0	23:05 1.0	P W	1	0:37 11.7	6:30 -0.5	13:07 11.2	19:47 -0.2		
	F	2	4:35 1.5	11:22 9.6	16:58 1.3	23:43 9.9	M	2	0:10 10.6	6:00 0.4	12:40 10.4	18:18 0.5	E Th	2	1:22 12.1	7:17 -1.0	13:50 11.4	19:30 -0.5		
	S	3	5:26 1.0	12:10 10.0	17:47 0.9	24:00 0.6	P Tu	3	0:57 11.2	6:50 -0.2	13:27 10.8	19:05 0.1	F	3	2:05 12.2	8:02 -1.1	14:34 11.4	20:16 -0.6		
	S	4	0:28 10.4	6:16 0.5	12:55 10.2	18:35 0.6	P W	4	1:42 11.6	7:37 -0.6	14:12 11.0	19:52 -0.1	S	4	2:50 12.1	8:47 -1.0	15:18 11.2	21:00 -0.4		
	M	5	1:13 10.7	7:04 0.1	13:42 10.4	19:22 0.4	Th	5	2:27 11.7	8:24 -0.7	14:59 11.0	20:38 -0.1	S	5	3:37 11.7	9:33 -0.5	16:06 10.7	21:47 0.1		
P	Tu	6	1:59 10.9	7:52 -0.1	14:30 10.5	20:10 0.3	E F	6	3:13 11.6	9:12 -0.7	15:46 10.8	21:25 0.1	C M	6	4:26 11.0	10:22 0.1	16:57 10.1	22:38 0.7		
	W	7	2:46 11.0	8:42 -0.2	15:18 10.4	20:57 0.3	S	7	4:02 11.3	9:59 -0.3	16:34 10.4	22:13 0.4	Tu	7	5:22 10.3	11:13 0.9	17:54 9.5	23:34 1.4		
	Th	8	3:34 10.9	9:30 -0.1	16:08 10.3	21:46 0.6	C S	8	4:53 10.8	10:49 0.2	17:27 10.0	23:05 0.9	N W	8	6:26 9.6	12:09 1.7	19:00 9.1	24:00 1.0		
	F	9	4:24 10.7	10:22 0.1	17:01 10.0	22:37 0.9	M	9	5:47 10.3	11:42 0.8	18:24 9.5	23:59 1.5	Th	9	7:07 2.0	12:59 9.1	20:00 2.3	25:00 2.3		
	C S	10	5:17 10.4	11:15 0.5	18:00 9.7	23:31 1.3	Tu	10	6:49 9.8	12:38 1.5	19:28 9.2	24:59 2.0	F	10	1:47 2.4	8:50 9.0	14:22 2.6	21:15 9.3		
N	S	11	6:15 10.1	12:10 0.9	18:56 9.4	24:00 0.6	W	11	1:02 1.9	7:56 9.4	13:40 2.0	20:34 9.2	S	11	2:59 2.4	9:57 9.2	15:27 2.5	22:14 9.7		
	M	12	0:28 1.6	7:17 9.9	13:08 1.3	19:58 9.3	N Th	12	2:08 2.2	9:06 9.4	14:45 2.2	21:37 9.4	S	12	4:03 2.1	10:54 9.5	16:23 2.2	23:04 10.2		
	Tu	13	1:29 1.8	8:20 9.8	14:08 1.5	20:58 9.4	F	13	3:17 2.1	10:12 9.5	15:48 2.2	22:35 9.8	M	13	4:55 1.7	11:42 9.8	17:10 1.8	23:48 10.6		
	W	14	2:38 1.8	9:24 9.8	15:08 1.6	21:58 9.7	S	14	4:20 1.9	11:10 9.8	16:42 1.9	23:21 10.3	● Tu	14	5:40 1.2	12:21 10.1	17:43 1.4	24:00 1.4		
	Th	15	3:35 1.7	10:25 10.0	16:07 1.6	22:51 10.1	● S	15	5:15 1.5	11:59 10.0	17:30 1.6	24:00 1.0	W	15	6:28 10.9	13:08 0.8	18:26 10.2	25:00 1.0		
●	F	16	4:33 1.4	11:20 10.2	17:00 1.4	23:40 10.4	M	16	0:10 10.7	6:00 1.0	12:43 10.2	18:13 1.3	E A Th	16	1:05 11.1	6:52 0.5	13:28 10.2	18:58 0.8		
	S	17	5:27 1.0	12:12 10.4	17:48 1.2	24:00 0.6	Tu	17	0:52 11.0	6:43 0.7	13:23 10.3	18:51 1.0	F	17	1:38 11.0	7:25 0.3	13:57 10.2	19:31 0.6		
	S	18	0:28 10.8	6:16 0.7	13:00 10.5	18:32 1.0	W	18	1:30 11.1	7:21 0.4	13:59 10.3	19:27 0.9	S	18	2:10 10.8	7:58 0.3	14:27 10.0	20:07 0.5		
	M	19	1:10 11.0	7:00 0.5	13:43 10.5	19:13 0.9	A E Th	19	2:06 11.0	7:57 0.3	14:32 10.1	20:02 0.8	S	19	2:43 10.5	8:33 0.4	15:00 9.8	20:43 0.6		
	Tu	20	1:52 11.0	7:43 0.4	14:24 10.3	19:53 0.9	F	20	2:42 10.8	8:32 0.4	15:05 9.8	20:38 0.8	M	20	3:18 10.0	9:10 0.6	15:34 9.5	21:23 0.9		
A	W	21	2:32 10.9	8:24 0.4	15:03 10.0	20:32 1.0	S	21	3:18 10.4	9:08 0.5	15:37 9.6	21:15 1.0	Tu	21	3:53 9.5	9:50 1.0	16:18 9.1	22:06 1.3		
	Th	22	3:13 10.7	9:03 0.5	15:42 9.7	21:10 1.1	S	22	3:53 10.0	9:46 0.8	16:13 9.3	21:54 1.2	D W	22	4:36 9.0	10:35 1.5	17:00 8.7	22:57 1.8		
	F	23	3:52 10.3	9:43 0.7	16:20 9.4	21:50 1.4	M	23	4:30 9.5	10:25 1.1	16:52 8.9	22:38 1.6	S Th	23	5:29 8.5	11:26 2.0	18:08 8.4	23:56 2.1		
	S	24	4:32 9.8	10:25 1.0	16:58 9.0	22:31 1.6	D Tu	24	5:13 9.0	11:08 1.6	17:39 8.5	23:28 1.9	F	24	6:40 8.1	12:27 2.4	19:20 8.3	24:00 8.3		
	D S	25	5:13 9.4	11:05 1.4	17:42 8.6	23:16 1.9	W	25	6:05 8.5	11:59 2.0	18:39 8.2	24:00 1.0	S	25	1:05 2.3	8:03 8.2	13:36 2.5	20:36 8.7		
s	M	26	6:00 8.9	11:51 1.7	18:30 8.4	24:00 1.0	Th	26	0:25 2.3	7:10 8.2	12:58 2.3	19:50 8.3	S	26	2:20 2.1	9:17 8.6	14:47 2.2	21:42 9.5		
	Tu	27	0:07 2.2	6:53 8.6	12:40 2.0	19:27 8.3	S F	27	1:32 2.4	8:25 8.2	14:03 2.4	21:02 8.6	M	27	3:28 1.6	10:20 9.4	15:52 1.6	22:40 10.4		
	W	28	1:02 2.3	7:54 8.4	13:36 2.2	20:28 8.4	S	28	2:42 2.2	9:38 8.6	15:10 2.1	22:06 9.3	Tu	28	4:27 0.8	11:12 10.2	16:47 0.9	23:28 11.2		
	Th	29	2:05 2.3	8:58 8.5	14:35 2.2	21:32 8.7	S	29	3:48 1.7	10:40 9.3	16:12 1.6	23:02 10.2	C P E W	29	5:20 0.0	11:59 10.9	17:36 0.1	24:00 0.1		
	F	30	3:08 2.1	10:00 8.8	15:35 1.9	22:28 9.3	M	30	4:48 0.9	11:34 10.0	17:07 1.0	23:51 11.0	Th	30	6:14 11.9	6:08 -0.7	12:42 11.4	18:23 -0.4		
S	31	4:10 1.6	10:59 9.3	16:33 1.5	23:22 10.0	○ Tu	31	5:42 0.1	12:22 10.7	17:59 0.3	24:00 1.0									

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾☽, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.						NOVEMBER.						DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
N	F	1	1:00 12.3	6:53 -1.1	13:25 11.7	19:07 -0.8	N	M	1	2:08 12.0	7:57 -0.6	14:28 11.4	20:17 -0.6	N	W	1	2:40 11.1	8:20 0.2	14:55 11.0	20:46 0.6
	S	2	1:43 12.4	7:37 -1.2	14:08 11.7	19:52 -0.8		Tu	2	2:55 11.5	8:45 -0.1	15:15 10.9	21:03 -0.1		Th	2	3:27 10.6	9:05 0.6	15:44 10.6	21:35 0.4
	S	3	2:28 12.2	8:23 -0.9	14:52 11.4	20:37 -0.6		W	3	3:45 10.7	9:28 0.5	16:05 10.4	21:54 0.6		F	3	4:20 10.0	9:52 1.2	16:34 10.1	22:25 1.0
	M	4	3:15 11.7	9:07 -0.4	15:38 10.8	21:24 -0.1		Th	4	4:40 10.0	10:18 1.3	17:00 9.8	22:50 1.2		S	4	5:13 9.4	10:40 1.8	17:27 9.7	23:18 1.5
	Tu	5	4:05 10.9	9:55 0.3	16:30 10.2	22:14 0.6		F	5	5:50 9.3	11:12 2.0	18:02 9.3	23:48 1.8		S	5	6:10 8.9	11:32 2.2	18:26 9.3	23:48 1.5
	W	6	5:00 10.1	10:45 1.1	17:26 9.6	23:10 1.4		S	6	6:48 8.8	12:10 2.5	19:07 9.1	24:48 1.2		M	6	6:10 2.0	11:32 8.6	18:26 2.6	23:48 9.1
	Th	7	6:03 9.4	11:40 1.9	18:31 9.1	24:07 1.1		S	7	7:57 2.3	13:14 8.7	20:18 2.8	26:18 9.2		Th	7	1:09 2.3	8:10 8.5	13:25 2.7	20:24 9.1
	F	8	0:12 2.0	7:16 8.9	12:43 2.6	19:42 9.0		M	8	1:57 2.5	9:00 8.7	14:18 2.8	21:10 9.4		W	8	2:03 2.4	9:08 8.6	14:22 2.7	21:24 9.2
	S	9	1:23 2.5	8:30 8.9	13:54 2.9	20:48 9.2		Tu	9	2:57 2.4	9:58 9.0	15:14 2.6	22:02 9.7		Th	9	2:55 2.3	9:52 8.8	15:14 2.4	22:06 9.3
	S	10	2:35 2.5	9:35 9.0	15:00 2.8	21:47 9.6		W	10	3:48 2.1	10:38 9.3	16:02 2.2	22:48 10.0		F	10	3:43 2.1	10:35 9.1	16:03 2.0	22:53 9.5
	M	11	3:38 2.3	10:30 9.3	15:55 2.5	22:38 10.0		Th	11	4:31 1.8	11:15 9.5	16:43 1.8	23:30 10.2		S	11	4:28 1.7	11:15 9.5	16:46 1.6	23:30 9.5
Tu	12	4:30 1.9	11:15 9.6	16:41 2.0	23:22 0.9	F	12	5:08 1.4	11:50 9.8	17:22 1.3	24:18 10.0	S	12	5:12 1.3	11:55 9.8	17:33 1.2	24:18 10.0			
W	13	5:10 1.5	11:52 9.9	17:18 1.6	24:07 1.1	S	13	6:05 10.3	12:24 1.0	18:00 10.0	25:08 0.9	M	13	6:17 10.0	12:25 1.0	18:00 10.1	25:08 0.7			
Th	14	0:00 10.7	5:46 1.1	12:25 10.0	17:54 1.1	S	14	6:42 10.3	12:56 0.7	18:38 10.1	25:50 0.6	Th	14	0:56 10.1	6:35 0.7	13:13 10.3	25:50 0.4			
F	15	0:36 10.8	6:20 0.7	12:55 10.1	18:28 0.8	M	15	7:16 10.3	13:32 0.6	19:17 10.1	26:40 0.4	W	15	1:37 10.1	7:17 0.6	13:53 10.4	26:40 0.3			
S	16	1:09 10.8	6:52 0.5	13:24 10.1	19:03 0.5	Tu	16	7:53 10.2	14:07 0.5	19:58 10.1	27:30 0.4	Th	16	2:20 10.1	8:02 0.6	14:35 10.4	27:30 0.2			
S	17	1:41 10.6	7:26 0.4	13:55 10.1	19:38 0.4	W	17	8:35 9.9	14:47 0.7	20:42 9.9	28:10 0.6	F	17	3:05 9.9	8:47 0.7	15:22 10.2	28:10 0.5			
M	18	2:14 10.3	8:02 0.4	14:28 9.9	20:17 0.5	Th	18	9:15 9.6	15:00 1.0	21:33 9.6	29:00 0.8	S	18	3:54 9.7	9:35 1.0	16:10 10.0	29:00 0.6			
Tu	19	2:50 10.0	8:40 0.7	15:06 9.6	20:58 0.8	F	19	9:52 9.2	15:44 1.4	22:23 9.6	30:00 1.1	S	19	4:47 9.4	10:25 1.3	17:05 9.8	30:00 0.8			
W	20	3:30 9.5	9:22 1.0	15:46 9.3	21:45 1.1	S	20	10:30 8.8	16:42 1.8	23:21 9.0	31:00 1.5	M	20	5:45 9.2	11:20 1.6	18:04 9.6	31:00 0.8			
Th	21	4:14 9.0	10:07 1.5	16:36 8.9	22:37 1.5	S	21	11:07 8.6	17:43 2.1	24:18 9.0	32:00 1.2	Tu	21	6:47 1.1	12:47 1.7	19:07 1.8	32:00 0.9			
F	22	5:12 8.5	11:00 2.0	17:41 8.6	23:38 1.9	M	22	11:55 1.6	18:47 2.6	25:10 9.3	33:00 1.3	W	22	7:51 1.3	13:24 1.8	20:13 1.8	33:00 0.7			
S	23	6:22 8.2	12:03 2.3	18:55 8.5	24:50 1.9	Tu	23	12:50 1.6	19:42 3.0	26:00 9.8	34:00 1.4	Th	23	8:54 1.4	14:27 2.4	21:15 1.7	34:00 1.0			
S	24	0:45 2.1	7:42 8.3	13:12 2.4	20:10 8.9	W	24	1:35 1.3	8:26 9.5	13:55 1.6	20:45 10.3	F	24	9:52 1.3	15:28 9.8	22:15 1.4	35:00 1.0			
M	25	1:57 1.9	8:54 8.8	14:23 2.2	21:15 9.6	Th	25	2:30 0.9	9:20 10.1	14:56 1.0	21:39 10.9	S	25	10:46 4.1	16:27 10.2	23:10 1.0	36:00 1.0			
Tu	26	3:05 1.5	9:55 9.5	15:25 1.6	22:15 10.4	F	26	3:28 0.4	10:16 10.6	15:50 0.5	22:39 11.4	S	26	11:37 0.8	17:20 10.7	23:40 0.5	37:00 1.0			
W	27	4:03 0.8	10:47 10.2	16:22 0.9	23:05 11.2	S	27	4:18 0.0	11:55 11.1	17:38 0.0	23:48 11.4	M	27	12:25 0.0	18:04 0.5	24:00 11.2	38:00 1.0			
Th	28	4:55 0.1	11:35 10.9	17:12 0.2	23:51 11.8	S	28	5:08 11.7	12:40 -0.2	18:26 11.4	24:48 -0.4	Tu	28	1:00 11.1	6:32 0.3	13:09 11.3	39:00 -0.1			
F	29	5:43 -0.5	12:18 11.4	18:00 -0.4	24:40 11.8	M	29	5:55 11.7	13:25 -0.3	19:13 11.5	25:50 -0.5	W	29	1:39 10.9	7:17 0.4	13:53 11.4	40:00 -0.2			
S	30	0:37 12.1	6:28 -0.8	13:01 11.6	18:45 -0.7	Tu	30	6:45 11.5	14:09 -0.1	20:00 11.3	26:50 -0.4	Th	30	2:24 10.9	8:00 0.4	14:36 11.2	41:00 0.0			
S	31	1:22 12.2	7:13 -0.8	13:45 11.6	19:30 -0.8							F	31	3:10 10.5	8:42 0.5	15:20 11.0	42:00 0.5			

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.6 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Greenwich Mean Civil; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☉, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
C N	F	1	6:10	12:22	18:43	9.2	1.6	9.2	1.6	M	1	1:32	7:55	14:05	20:27	1.9	9.0	1.8	9.1	N	M	1	6:17	12:30	18:55	8.6	2.3	8.6	2.3			
	S	2	0:54	7:16	13:25	1.6	9.3	1.5	9.4	N	Tu	2	2:36	8:57	15:05	21:25	1.7	9.3	1.6	9.4	Tu	2	1:05	7:32	13:42	2.3	8.6	2.2	8.8			
	S	3	1:56	8:17	14:25	1.4	9.5	1.3	9.7	W	3	3:32	9:51	15:57	22:15	1.5	9.6	1.3	9.7	W	3	2:15	8:38	14:45	2.1	8.9	1.9	9.2				
	M	4	2:58	9:14	15:20	1.2	9.8	1.1	10.0	Th	4	4:20	10:38	16:42	23:00	1.2	9.8	1.1	9.9	Th	4	3:12	9:32	15:37	1.8	9.3	1.6	9.5				
	Tu	5	3:45	10:05	16:10	1.0	10.0	0.9	10.1	O	F	5	5:02	11:18	17:21	23:38	1.1	9.9	1.0	9.9	F	5	4:00	10:18	16:22	1.4	9.7	1.3	9.8			
	W	6	4:32	10:50	16:55	0.8	10.1	0.8	10.1	S	6	5:38	11:55	17:55	24:00	1.0	9.9	1.0	1.1	S	6	4:41	10:58	16:58	1.1	9.9	1.0	10.0				
	Th	7	5:15	11:33	17:35	0.9	10.0	0.9	10.0	S	7	6:10	12:25	18:25	24:00	0.9	1.0	0.9	1.1	O	S	7	5:15	11:30	17:30	0.9	10.0	0.9	10.0			
	F	8	5:55	12:10	18:12	0.9	9.8	1.0	1.1	A	M	8	6:40	12:55	18:55	0.9	1.1	1.0	1.1	A	M	8	5:45	12:00	17:58	0.9	10.0	0.9	10.0			
	S	9	6:30	12:45	18:45	0.9	9.7	1.1	1.2	E	Tu	9	7:10	13:24	19:26	0.9	1.2	1.0	1.1	E	Tu	9	6:13	12:27	18:27	0.9	9.9	0.9	9.9			
	S	10	7:05	13:20	19:20	0.9	9.5	1.3	1.4	W	10	7:43	13:55	20:00	0.9	1.3	1.1	1.2	W	10	6:42	12:55	18:58	0.9	9.9	0.9	9.9					
A	M	11	7:40	13:55	19:55	0.9	9.3	1.5	1.6	Th	11	8:18	14:32	20:38	0.9	1.4	1.2	1.3	Th	11	7:12	13:24	19:28	0.9	9.8	0.9	9.7					
Tu	12	8:15	14:30	20:35	0.9	9.1	1.7	1.7	F	12	8:50	15:15	21:23	0.9	1.6	1.3	1.4	F	12	7:47	13:59	20:06	0.9	9.6	1.1	9.5						
E	W	13	8:55	15:13	21:20	0.8	8.9	1.8	1.9	C	S	13	9:38	16:05	22:17	0.8	1.9	1.6	1.7	S	13	8:26	14:40	20:50	0.8	9.4	1.4	9.3				
C	Th	14	9:35	15:42	22:10	0.8	8.7	2.0	2.1	S	14	10:18	17:08	23:21	0.8	2.1	1.8	1.9	S	14	9:04	15:31	21:44	0.9	9.1	1.7	8.9					
F	15	10:35	16:55	23:05	0.8	8.6	2.1	2.2	M	15	11:05	18:20	24:00	0.8	2.2	1.9	2.0	C	M	15	8:00	16:35	22:48	0.8	8.7	2.1	8.6					
S	16	11:35	17:55	24:00	0.8	8.5	2.2	2.3	Tu	16	12:03	19:38	24:00	0.8	2.3	2.0	2.1	S	Tu	16	8:44	17:50	23:00	0.8	8.4	2.3	8.4					
S	17	6:28	12:40	19:00	0.2	8.6	2.1	8.7	S	W	17	1:44	8:07	14:17	20:38	1.8	9.1	1.6	9.4	W	17	0:05	6:30	12:44	0.3	8.5	2.2	8.7				
M	18	7:34	13:42	20:05	0.2	8.9	1.8	9.1	Th	18	2:48	9:10	15:18	21:38	1.4	9.7	0.9	10.1	Th	18	1:20	7:45	13:55	0.2	9.0	1.7	9.3					
Tu	19	8:35	14:42	21:08	0.6	9.4	1.3	9.6	F	19	3:45	10:05	16:12	22:30	0.6	10.4	0.3	10.7	F	19	2:28	8:49	14:57	0.3	9.7	0.9	10.1					
S	W	20	9:30	15:37	21:57	1.0	9.9	0.8	10.2	P	S	20	4:37	10:54	17:00	23:17	0.0	11.0	0.3	11.2	S	20	3:25	9:45	15:52	0.5	10.5	0.2	10.9			
●	Th	21	10:22	16:28	22:47	0.5	10.4	0.3	10.6	S	21	5:23	11:40	17:45	24:00	0.5	11.4	0.6	11.6	P	S	21	4:17	10:33	16:40	0.2	11.2	0.4	11.4			
F	22	11:10	17:15	23:33	0.1	10.8	0.1	10.9	M	22	6:08	12:25	18:30	11.5	0.8	11.5	0.8	11.6	●	E	M	22	5:02	11:18	17:25	0.7	11.6	0.8	11.7			
P	S	23	11:57	18:03	24:00	0.2	11.0	0.3	11.1	E	Tu	23	6:46	13:08	19:14	0.4	11.5	0.7	11.4	E	Tu	23	5:45	12:01	18:10	0.9	11.7	0.9	11.8			
S	24	6:25	12:42	18:48	11.1	0.3	11.1	0.3	W	24	7:37	13:54	19:58	1.3	0.4	11.1	0.2	11.2	W	24	0:23	6:28	12:44	11.7	0.9	11.6	0.7					
M	25	7:13	13:28	19:35	1.1	0.3	11.0	0.1	Th	25	8:22	14:40	20:47	2.1	0.8	1.1	0.6	1.1	Th	25	1:07	7:12	13:28	11.4	0.5	11.1	0.3					
E	Tu	26	8:00	14:17	20:24	1.5	0.8	0.0	0.2	F	26	9:13	15:32	21:40	3.0	0.7	1.0	0.9	F	26	1:50	7:56	14:14	1.0	0.9	0.0	0.4					
W	27	8:50	15:08	21:15	2.4	0.5	0.4	0.6	D	S	27	10:10	16:32	22:40	4.0	0.2	1.0	0.8	S	27	2:38	8:45	15:04	1.0	1.0	0.7	0.8					
D	Th	28	9:43	16:03	22:12	3.3	0.0	0.9	1.1	S	28	11:15	17:40	23:51	5.0	0.0	1.1	0.8	D	S	28	3:32	9:40	16:01	0.9	1.5	0.9	1.8				
F	29	10:42	17:05	23:15	4.3	0.5	1.4	1.6	N	M	29	12:01	18:10	24:00	6.4	0.2	1.1	0.9	N	M	29	4:34	10:44	17:10	0.9	2.1	0.8	2.3				
S	30	11:49	18:12	24:00	5.3	0.9	1.8	2.0	Tu	30	1:58	19:26	24:00	7.4	0.4	1.2	1.0	Tu	30	5:48	11:58	18:26	0.8	2.5	0.8	3.0						
S	31	6:47	12:57	19:22	0.2	1.9	0.0	0.0	W	31	7:02	13:12	19:38	8.5	0.3	1.3	1.1	W	31	6:35	7:02	13:12	0.5	2.5	0.8	3.0						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil, for the meridian 6° 20' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.					W.	Mo.					W.	Mo.				
A	Th	1	1:44 2.3	8:07 8.7	14:16 2.1	20:37 8.9	S	1	2:00 2.1	8:21 9.0	14:25 1.9	20:45 9.2	Tu	1	2:43 1.5	9:02 9.4	15:05 1.4	21:22 9.5
	F	2	2:43 2.0	9:03 9.2	15:06 1.7	21:27 9.4	E S	2	2:48 1.7	9:07 9.3	15:10 1.5	21:28 9.5	W	2	3:26 1.2	9:45 9.7	15:47 1.0	22:04 9.5
	S	3	3:30 1.6	9:48 9.5	15:52 1.4	22:08 9.7	M	3	3:30 1.3	9:46 9.7	15:48 1.1	22:05 9.8	Th	3	4:07 0.9	10:24 10.0	16:27 0.8	22:44 10.0
	S	4	4:10 1.2	9:27 9.8	16:28 1.0	22:45 10.0	Tu	4	4:06 1.0	10:22 9.9	16:24 0.9	22:39 10.0	○ F	4	4:47 0.7	11:03 10.1	17:08 0.6	23:23 10.1
	○ M	5	4:44 1.0	10:59 10.0	17:00 0.9	23:15 10.0	○ W	5	4:40 0.8	10:56 10.0	16:57 0.7	23:12 10.1	S	5	5:30 0.6	11:44 10.2	17:48 0.6	24:00 10.1
E	Tu	6	5:13 0.8	11:28 10.0	17:30 0.7	23:43 10.1	Th	6	5:14 0.7	11:28 10.1	17:32 0.6	23:45 10.1	S	6	6:04 10.1	12:08 0.6	18:00 10.1	24:30 0.7
	W	7	5:42 0.7	11:57 10.0	17:58 0.7	24:12 10.0	F	7	5:47 0.6	12:02 10.1	18:06 0.7	24:12 10.0	M	7	6:47 10.0	12:53 0.7	18:09 0.9	25:00 10.0
	Th	8	6:12 10.0	12:26 0.7	18:28 10.0	24:42 0.7	S	8	6:21 10.0	12:26 0.7	18:38 0.9	24:42 0.8	Tu	8	7:40 9.8	13:57 0.9	19:00 0.7	25:30 1.0
	F	9	6:42 9.9	12:55 0.8	19:02 0.9	25:12 0.9	S S	9	6:59 9.8	13:04 0.9	19:25 0.7	25:12 1.0	W	9	8:32 9.6	14:50 1.2	20:00 0.5	26:00 1.0
	S	10	7:16 9.8	13:20 1.0	19:30 0.6	25:40 1.1	M	10	7:16 9.6	13:20 1.2	19:30 0.4	25:40 1.4	Th	10	9:24 9.4	16:30 1.2	20:30 0.3	26:30 1.0
S	S	11	7:56 9.5	14:04 1.3	20:08 0.3	26:18 1.5	Tu	11	7:56 9.3	14:04 1.5	20:08 0.1	26:18 1.7	○ F	11	10:33 9.2	17:54 1.6	21:00 0.2	27:00 1.6
	M	12	8:43 9.1	14:54 1.7	21:02 0.9	27:00 1.9	○ W	12	8:32 8.9	14:42 1.9	20:38 0.8	27:15 1.9	E P	12	11:38 9.2	18:38 1.6	21:30 0.2	27:30 1.6
	Th	13	9:40 8.8	15:54 2.0	22:00 0.6	28:00 2.2	Th	13	9:39 8.7	15:50 2.0	22:07 0.7	28:20 2.0	S	13	12:40 1.5	19:38 0.9	22:42 0.4	28:30 1.6
	W	14	10:42 8.5	16:54 2.3	23:00 0.5	29:00 2.2	F	14	10:40 8.9	16:52 1.9	23:06 0.9	29:00 2.0	M	14	1:13 1.3	20:35 0.7	23:43 0.1	29:00 1.6
	Th	15	11:10 8.6	17:23 2.1	23:30 0.8	29:30 2.2	S	15	10:36 1.7	17:00 2.2	23:10 1.5	29:30 2.5	Tu	15	2:12 1.0	21:00 1.0	24:40 0.8	30:00 1.6
P	F	16	11:59 1.9	17:52 9.0	24:00 1.6	30:00 2.4	E P S	16	1:41 1.2	8:02 9.8	14:10 0.9	20:30 10.1	W	16	3:07 0.6	20:27 10.3	23:53 0.5	30:00 1.6
	S	17	12:05 1.2	8:27 9.8	14:36 0.9	20:55 10.2	M	17	2:37 0.6	8:57 10.4	15:04 0.4	21:22 10.6	● Th	17	3:58 0.4	20:17 10.5	24:22 0.4	30:00 1.6
	S	18	12:08 0.5	8:22 10.5	15:29 0.2	21:47 10.8	Tu	18	3:28 0.2	9:47 10.8	15:54 0.0	22:10 10.9	F	18	4:55 0.4	21:03 10.5	24:00 0.4	30:00 1.6
	M	19	12:08 -0.1	8:10 11.2	16:16 -0.4	22:34 11.3	● W	19	4:16 -0.1	10:34 11.0	16:40 -0.2	22:57 11.1	N	19	5:30 0.4	21:48 10.4	24:00 0.5	30:00 1.6
	● Tu	20	4:40 -0.5	10:56 11.5	17:02 -0.7	23:17 11.5	Th	20	5:00 -0.2	11:18 11.0	17:24 -0.2	23:40 11.0	S	20	6:08 10.3	22:12 0.6	24:30 1.0	30:00 1.6
N	W	21	5:22 -0.7	11:38 11.5	17:43 -0.7	23:57 11.5	F	21	5:45 -0.1	12:02 10.8	18:06 0.0	24:12 11.0	M	21	6:50 10.0	22:48 0.9	24:30 0.8	30:00 1.6
	Th	22	6:00 11.5	12:05 -0.6	18:22 11.3	24:27 -0.4	N S	22	6:28 10.7	12:02 0.2	18:26 10.5	24:40 0.4	Tu	22	7:35 9.6	23:18 1.3	24:30 0.4	30:00 1.6
	F	23	6:43 11.1	12:47 -0.2	18:05 10.9	25:10 0.0	S	23	7:08 10.3	12:30 0.6	18:30 10.0	25:00 0.9	W	23	8:18 9.3	24:18 1.6	24:30 0.1	30:00 1.6
	S	24	7:28 10.6	13:32 0.8	18:50 10.3	25:55 0.6	M	24	7:57 9.8	13:15 1.1	19:15 0.5	25:20 1.4	Th	24	9:00 9.0	25:08 1.9	25:23 0.8	30:00 1.6
	N S	25	8:20 10.0	14:30 0.9	19:36 0.6	26:45 1.3	Tu	25	8:45 9.2	15:07 1.7	20:12 0.9	26:12 1.9	A D	25	9:47 8.7	25:51 2.1	25:13 0.6	30:00 1.6
D	M	26	8:06 9.3	14:12 1.6	19:34 0.9	26:41 1.9	W	26	8:34 8.8	14:40 2.1	19:02 0.6	26:08 2.2	E	26	10:38 8.5	26:45 2.3	25:05 0.5	30:00 1.6
	Tu	27	4:04 8.8	10:13 2.2	16:37 0.5	22:46 2.4	Th	27	4:32 8.5	10:38 2.4	17:01 0.4	23:09 2.4	S	27	5:32 8.5	11:40 2.3	18:00 0.5	30:00 1.6
	W	28	5:12 8.4	11:21 2.5	17:47 0.3	23:57 2.5	A F	28	5:32 8.4	11:40 2.5	18:03 0.4	23:09 2.4	M	28	6:07 2.2	12:28 2.5	22:35 0.4	30:00 1.6
	Th	29	6:22 8.3	12:31 2.5	18:56 0.4	24:57 2.5	S	29	6:09 2.4	12:33 2.5	18:38 0.3	23:01 2.6	Tu	29	1:03 2.1	13:30 2.8	23:30 2.0	30:00 1.6
	A F	30	1:02 2.4	7:28 8.6	13:33 2.3	19:56 8.8	E S	30	1:05 2.2	7:28 8.7	13:33 2.1	19:53 8.9	W	30	2:00 1.8	8:17 9.1	14:34 1.6	20:40 9.5
							M	31	1:58 1.9	8:18 9.1	14:21 1.7	20:40 9.2						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil for the meridian 6° 20' West; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.							
Mo.	Day of— W. Mo.	Time and Height of High and Low Water.				Mo.	Day of— W. Mo.	Time and Height of High and Low Water.				Mo.	Day of— W. Mo.	Time and Height of High and Low Water.			
S	Th 1	2:48 1.4	9:08 9.0	15:13 1.2	21:33 9.7	O	S 1	4:05 0.7	10:24 10.2	16:30 0.5	22:47 10.4	P	W 1	5:21 -0.5	11:37 11.4	17:43 -0.6	23:59 11.4
	F 2	3:37 1.1	9:57 9.8	16:02 0.9	22:20 10.0		M 2	4:54 0.8	11:12 10.6	17:17 0.1	23:34 10.8		Th 2	6:05 -0.7	12:22 11.5	18:27 -0.7	24:11 11.3
	S 3	4:24 0.7	10:43 10.1	16:48 0.6	23:06 10.2		Tu 3	5:40 0.0	11:57 10.9	18:02 -0.2	24:00 10.8		F 3	6:43 11.4	12:48 -0.6	19:05 11.3	24:56 -0.5
	S 4	5:10 0.5	11:28 10.8	17:23 0.4	23:50 10.4		P W 4	6:20 11.0	12:25 -0.2	18:42 11.0	24:48 -0.2		S 4	7:27 11.2	13:33 -0.3	19:50 11.0	25:51 -0.1
	M 5	5:55 0.4	12:12 10.4	18:18 0.3	24:40 10.4		Th 5	7:04 10.9	12:57 -0.2	19:27 10.9	25:34 -0.1		S 5	8:21 10.7	14:21 0.2	20:46 10.4	26:56 0.5
P	Tu 6	6:36 10.4	12:59 0.3	19:05 10.4	26:05 0.4	E	F 6	7:51 10.8	13:45 0.1	20:22 10.6	26:56 0.2	C	M 6	9:05 10.1	15:12 0.8	21:52 9.8	27:57 1.1
	W 7	7:22 10.3	13:47 0.4	19:58 10.3	26:55 0.5		S 7	8:46 10.4	14:37 0.4	21:13 10.2	27:46 0.6		Tu 7	10:12 9.4	16:35 1.5	22:45 9.2	28:58 1.8
	Th 8	8:17 10.2	14:37 0.6	20:45 10.0	27:45 0.7		C S 8	9:32 10.0	15:30 0.9	22:10 9.8	28:34 1.1		N W 8	11:21 8.9	17:47 2.0	23:58 8.8	29:59 2.1
	E F 9	9:04 9.9	15:28 0.9	21:40 9.8	28:34 1.0		M 9	10:30 9.5	16:22 1.4	23:02 9.8	29:24 1.6		Th 9	12:36 8.7	19:02 2.2	25:02 8.7	30:59 1.9
	C S 10	9:59 9.7	16:18 1.1	22:29 9.5	29:24 1.3		Tu 10	11:47 9.1	17:10 1.7	23:50 9.0	30:14 1.1		F 10	1:13 2.2	7:38 8.9	13:47 2.0	21:00 9.0
N	S 11	10:59 9.4	17:01 1.4	23:12 9.4	30:14 1.5	N	W 11	12:47 1.8	18:02 9.0	24:40 1.9	30:58 9.0	S	S 11	2:19 1.9	8:42 9.2	14:48 1.7	21:08 9.4
	M 12	11:48 9.3	17:51 1.5	23:59 9.3	30:58 1.6		Th 12	1:32 1.8	7:56 9.1	14:05 1.7	20:27 9.2		S 12	3:15 1.5	9:34 9.6	15:59 1.8	22:57 9.8
	Tu 13	12:47 1.5	18:41 9.4	24:48 1.5	31:08 9.4		F 13	2:36 1.6	8:58 9.4	15:05 1.5	21:25 9.6		M 13	4:01 1.1	10:18 9.9	16:22 1.0	23:38 10.0
	W 14	1:50 1.4	8:13 9.5	14:21 1.3	20:43 9.6		S 14	3:32 1.3	9:52 9.7	15:57 1.2	22:15 9.9		Tu 14	4:42 0.9	10:58 10.1	16:59 0.8	24:15 10.1
	Th 15	2:50 1.2	9:11 9.8	15:18 1.1	21:38 9.9		S 15	4:20 1.0	10:38 10.0	16:43 0.9	23:00 10.0		W 15	5:16 0.8	11:52 10.1	17:52 0.8	24:45 10.0
A	F 16	3:44 1.0	10:05 10.0	16:09 0.9	22:28 10.0	A	M 16	5:02 0.9	11:20 10.1	17:22 0.9	23:40 10.0	E	Th 16	6:05 0.8	12:00 10.0	17:59 0.8	24:59 10.0
	S 17	4:38 0.8	10:58 10.1	16:57 0.8	23:14 10.1		Tu 17	5:40 0.8	11:57 10.0	17:57 0.9	24:30 10.0		F 17	6:13 0.9	12:27 9.9	18:27 9.8	25:27 0.9
	S 18	5:18 0.8	11:36 10.1	17:38 0.8	23:56 10.0		W 18	6:13 0.9	12:28 0.9	18:28 9.8	25:10 1.0		S 18	6:40 0.8	12:55 1.0	18:55 9.7	26:15 1.0
	M 19	5:58 0.9	12:15 10.0	18:17 0.9	24:40 10.0		Th 19	6:44 0.8	13:08 1.0	18:58 9.7	25:58 1.1		S 19	7:12 0.6	13:24 1.1	19:28 9.5	26:52 1.2
	Tu 20	6:34 0.9	12:52 9.9	18:53 1.0	25:24 1.1		F 20	7:13 0.6	13:28 1.2	19:30 9.5	26:48 1.2		M 20	7:46 0.9	14:00 1.4	20:06 9.3	27:45 1.5
D	W 21	7:10 0.6	13:28 1.2	19:28 9.5	26:13 1.3	D	S 21	7:46 0.9	14:00 1.3	20:08 9.8	27:08 1.4	D	Tu 21	8:27 0.9	14:42 1.6	20:52 9.0	28:02 1.8
	Th 22	7:47 0.4	14:08 1.4	20:05 9.3	26:50 1.5		S 22	8:22 0.9	14:35 1.5	20:42 9.1	27:42 1.7		W 22	9:06 0.8	15:35 2.0	21:48 8.6	28:57 2.2
	F 23	8:23 0.2	14:40 1.6	20:45 9.1	27:34 1.7		M 23	9:08 0.9	15:19 1.8	21:28 8.9	28:32 1.9		Th 23	9:45 0.5	16:20 2.3	22:56 8.8	29:52 2.4
	S 24	9:05 0.0	15:22 1.8	21:27 8.9	28:24 1.9		Tu 24	9:55 0.7	16:10 2.0	22:24 8.6	29:24 2.2		F 24	10:33 0.3	17:08 2.4	23:44 8.3	30:52 2.7
	S 25	9:50 0.8	16:08 2.0	22:16 8.7	29:14 2.1		W 25	10:55 0.5	17:15 2.3	23:29 8.4	30:14 2.3		S 25	11:12 0.2	17:50 2.5	24:24 8.2	31:52 3.0
S	M 26	10:43 0.6	17:01 2.2	23:12 8.5	30:04 2.2	S	Th 26	12:08 0.4	18:28 2.8	24:40 8.5	31:04 2.4	O	S 26	1:25 1.9	18:38 9.1	25:30 1.5	32:52 2.8
	Tu 27	11:41 0.5	18:02 2.2	24:12 8.5	30:54 2.3		F 27	1:05 0.2	19:15 8.6	25:10 2.1	31:54 8.8		M 27	2:28 1.1	19:49 9.9	26:52 0.8	33:52 3.1
	W 28	12:24 0.2	18:44 2.5	24:54 2.1	31:44 8.7		S 28	8:12 1.8	14:20 9.1	20:43 1.6	30:43 9.4		Tu 28	3:25 0.4	20:42 10.6	27:49 0.0	34:52 11.0
	Th 29	1:15 2.0	19:37 8.8	25:46 1.9	32:34 9.0		S 29	9:12 1.2	15:18 9.8	21:38 0.9	31:43 10.1		W 29	4:12 -0.3	21:30 11.3	28:35 -0.5	35:52 11.5
	F 30	2:16 1.7	20:38 9.3	26:46 1.4	33:44 9.5		M 30	10:05 0.5	16:10 10.5	22:30 0.2	32:33 10.8		Th 30	5:08 -0.7	22:20 11.7	29:30 -0.9	36:52 11.7
S	S 31	3:13 1.2	21:33 9.8	27:50 0.9	34:54 10.0	O	Tu 31	10:53 -0.1	16:58 11.0	23:15 -0.3	33:23 11.2						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 5.4 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil for the meridian 6° 20' W.; 0h is midnight, 12h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.				NOVEMBER.				DECEMBER.						
Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			Moon.	Day of— W. Mo.	Time and Height of High and Low Water.			Moon.	Day of— W. Mo.	Time and Height of High and Low Water.		
N C	F 1	5:42	11:56	18:08	N C	M 1	0:41	6:47	13:06	N C	W 1	1:10	7:14	13:33
	S 2	—0.9	11.7	—0.9		Tu 2	11.1	—0.2	10.9		Th 2	10.4	0.5	10.1
	S 3	0:20	6:25	12:41		W 3	1:27	7:33	13:52		F 3	1:56	8:02	14:22
	M 4	11.6	—0.8	11.5		Th 4	10.6	0.3	10.3		S 4	9.9	1.0	9.6
	Tu 5	1:02	7:06	13:27		F 5	2:17	8:23	14:44		M 6	2:47	8:52	15:15
	W 6	11.3	—0.4	11.0		S 6	9.9	1.0	9.6		Th 7	9.3	1.6	9.1
	Th 7	1:48	7:55	14:13		M 8	8:12	9:20	15:43		F 10	8:42	9:48	16:12
	F 8	10.7	0.2	10.4		W 10	9.3	1.7	9.0		S 11	8.9	2.0	8.7
	S 9	2:39	8:47	15:07		Th 11	4:15	10:25	16:50		Th 9	4:41	10:48	17:13
	M 10	10.0	0.9	9.7		F 12	8.8	2.2	8.6		F 11	8.6	2.3	8.5
	Tu 11	3:36	9:45	16:08		S 13	5:25	11:35	18:01		S 12	5:43	11:51	18:15
	W 12	9.3	1.6	9.0		M 15	8.5	2.4	8.4		M 13	8.5	2.4	8.5
E A	Th 13	4:43	10:54	17:21	E A	W 14	0:10	6:35	12:44	E A	Tu 14	0:20	6:43	12:50
	F 14	8.8	2.2	8.6		Th 15	1:16	7:37	13:43		W 15	1:17	7:38	13:42
	S 15	5:59	12:10	18:37		F 16	2:2	8.8	2.0		Th 16	2:2	7:38	13:42
	M 16	8.5	2.4	8.5		S 17	2:10	8:28	14:33		F 17	2:07	8:27	14:30
	Tu 17	0:48	7:13	13:21		M 18	1.9	9.2	1.7		S 18	1.9	9.1	1.7
	W 18	2.3	8.7	2.2		W 19	2:55	9:12	15:16		Th 19	2:53	9:12	15:14
	Th 19	1:54	8:15	14:22		Th 20	1.5	9.5	1.3		F 20	1.6	9.4	1.4
	F 20	2:0	9.0	1.8		F 21	3:35	9:52	15:58		S 21	3:30	9:52	15:54
	S 21	2:28	9:07	15:12		S 22	1.2	9.8	1.1		Th 22	4:14	10:31	16:33
	M 22	1.6	9.5	1.4		M 23	4:10	10:27	16:27		W 23	1.0	9.8	0.9
	Tu 23	8.33	9.50	16.58		W 24	1.0	9.9	0.9		Th 24	4:58	11:10	17:12
	W 24	1.2	9.8	1.1		Th 25	4:43	10:58	17:00		F 25	0.9	9.9	0.8
S D	Th 25	4:12	10:28	16:28	S D	F 26	5:15	11:30	17:22	S D	S 26	5:32	11:47	17:50
	F 26	4:45	11:00	17:00		S 27	0.8	10.0	0.8		Th 27	0.8	10.0	0.7
	S 27	5:13	11:30	17:28		M 28	5:48	12:04	18:07		W 28	0:07	6:12	12:27
	M 28	0.8	10.0	0.8		W 29	0.8	9.9	0.9		Th 29	0:48	7:53	13:10
	Tu 29	5:42	11:57	17:57		Th 30	0:20	6:25	12:40		F 30	9.9	0.8	9.8
	W 30	0.8	9.9	0.8		F 31	0:59	7:08	13:19		S 31	1:31	7:38	13:56
	Th 31	0:10	6:12	12:27		S 1	9.6	1.1	9.5		Th 1	9.7	1.0	9.6
	F 1	0:40	6:43	12:57		M 2	1:40	7:47	14:05		W 2	2:21	8:28	14:48
	S 2	9.7	1.0	9.6		W 3	9.4	1.4	9.2		Th 3	9.5	1.2	9.4
	M 3	1:14	7:20	13:33		Th 4	2:30	8:40	14:59		F 4	3:15	9:25	15:45
	Tu 4	9.5	1.2	9.4		F 5	9.1	1.7	8.9		S 5	9.3	1.5	9.3
	W 5	1:58	8:02	14:18		S 6	8.8	2.0	8.7		Th 6	4:15	10:26	16:47
	Th 6	9.2	1.6	9.0		M 7	4:37	10:50	17:14		W 7	9.1	1.6	9.1
E P	F 7	2:42	8:54	15:12	E P	W 8	5:48	12:00	18:27	E P	Th 8	5:20	11:32	17:53
	S 8	8.9	1.9	8.7		Th 9	8.7	2.1	8.7		W 9	0:05	6:26	12:37
	M 9	3:43	9:57	16:18		F 10	0:34	6:55	13:07		Th 10	1:10	7:30	13:40
	Tu 10	8.5	2.2	8.4		S 11	1.7	9.3	1.4		W 11	1.4	9.5	1.2
	W 11	4:55	11:10	17:36		M 12	1:39	7:58	14:07		Th 12	2:10	8:31	14:38
	Th 12	8.4	2.3	8.4		W 13	1.1	9.8	0.9		F 13	1.0	9.9	0.8
	F 13	6:13	12:27	18:50		Th 14	2:35	8:53	15:00		S 14	3:06	9:27	15:32
	S 14	8.6	2.1	8.8		F 15	0.6	10.4	0.3		Th 15	0.7	10.3	0.5
	M 15	1:02	7:25	13:34		S 16	3:25	9:43	15:50		W 16	8:58	10:17	16:22
	Tu 16	1.8	9.2	1.5		M 17	0.1	10.9	—0.1		Th 17	0.4	10.6	0.3
	W 17	2:05	8:25	14:33		W 18	4:13	10:32	16:37		F 18	4:47	11:05	17:10
	Th 18	1.1	9.9	0.7		Th 19	—0.3	11.1	—0.3		S 19	0.2	10.7	0.2
	F 19	3:50	10:07	16:12		F 20	5:00	11:18	17:23		Th 20	5:32	11:50	17:53
	S 20	—0.3	11.2	—0.5		S 21	—0.4	11.2	—0.3		W 21	0.2	10.6	0.3
S D	Th 21	4:35	10:52	16:57	S D	M 22	5:45	12:02	18:07	S D	Th 22	0:12	6:15	12:33
	F 22	—0.7	11.5	—0.8		W 23	—0.2	11.0	—0.1		W 23	10.5	0.4	10.4
	M 23	5:19	11:35	17:40		Th 24	0:24	6:30	12:47		Th 24	0:55	6:58	13:15
	Tu 24	—0.8	11.6	—0.8		F 25	10.8	0.1	10.6		F 25	1:37	7:40	13:58
	W 25	6:02	12:20	18:25		S 26					S 26	9.9	1.0	9.7
	Th 26	—0.6	11.8	—0.6		M 27					Th 27			
	F 27					W 28					W 28			
	S 28					Th 29					F 29			
	M 29					F 30					S 30			
	Tu 30					S 31					Th 31			
	W 31					F 1					W 1			
	Th 1					S 2					Th 2			
	F 2					M 3					F 3			
	S 3					W 4					S 4			
	M 4					Th 5					M 5			
	Tu 5					F 6					Th 6			
	W 6					S 7					W 7			
	Th 7					M 8					F 8			
	F 8					W 9					S 9			
	S 9					Th 10					M 10			
	M 10					F 11					Th 11			
	Tu 11					S 12					W 12			
	W 12					Th 13					F 13			
	Th 13					M 14					S 14			
	F 14					W 15					Th 15			
	S 15					Th 16					F 16			
	M 16					F 17					S 17			
	Tu 17					S 18					Th 18			
	W 18					M 19					W 19			
	Th 19					W 20					Th 20			
	F 20					Th 21					F 21			
	S 21					M 22					S 22			
	M 22					W 23					Th 23			
	Tu 23					F 24					M 24			
	W 24					S 25					W 25			
	Th 25					Th 26					F 26			
	F 26					M 27					S 27			
	S 27					W 28					Th 28			
	M 28					F 29					W 29			
	Tu 29					S 30					Th 30			
	W 30					Th 31					F 31			
	Th 31					M 1					S 1			
	F 1					W 2					Th 2			
	S 2					Th 3					F 3			
	M 3					F 4					S 4			
	Tu 4					S 5					Th 5			
	W 5					M 6					W 6			
	Th 6					W 7					Th 7			
	F 7					Th 8					F 8			
	S 8					M 9					S 9			
	M 9					W 10					Th 10			
	Tu 10					F 11					M 11			

JANUARY.						FEBRUARY.						MARCH.										
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.						W.	Mo.						W.	Mo.						
N	F	1	0:07	6:25	12:40	19:02	N	M	1	1:50	8:16	14:30	20:50	N	M	1	0:00	6:30	12:46	19:14		
			10.0	1.9	10.2	2.0				9.6	2.3	9.6	2.3				9.2	2.9	8.9	3.1		
	S	2	1:16	7:34	13:46	20:08			Tu	2	3:00	9:25	15:30		21:54		Tu	2	1:25	7:58	14:12	20:34
			10.1	1.7	10.3	1.8				10.0	1.9	10.0	1.8				9.0	2.9	9.1	2.7		
	S	3	2:18	8:37	14:50	21:10			W	3	3:50	10:22	16:20		22:44		W	3	2:40	9:10	15:15	21:38
			10.4	1.5	10.5	1.5				10.4	1.5	10.3	1.3				9.5	2.4	9.5	2.0		
	M	4	3:15	9:36	15:40	22:04			Th	4	4:37	11:10	17:00		23:25		Th	4	3:38	10:10	16:05	22:28
			10.7	1.2	10.8	1.2				10.8	1.1	10.6	0.9				10.1	1.7	10.0	1.4		
	Tu	5	4:02	10:30	16:26	22:54			F	5	5:20	11:50	17:38				F	5	4:20	10:55	16:44	23:06
			11.0	0.9	11.0	0.9				11.1	0.9	10.8					10.7	1.2	10.5	0.9		
O	W	6	4:48	11:16	17:10	23:37	O	S	6	0:05	5:52	12:25	18:10	O	S	6	5:00	11:30	17:18	23:40		
			11.2	0.8	11.0	0.8				0.8	11.3	0.9	10.9				11.1	0.8	10.9	0.6		
	Th	7	5:28	12:00	17:48				S	7	0:35	6:25	12:54		18:37		S	7	5:32	12:00	17:46	
			11.3	0.8	11.0					0.9	11.4	1.1	11.0				11.4	0.7	11.1			
	F	8	0:15	6:05	12:40	18:25		A	M	8	1:05	6:55	13:20		19:06	A	M	8	0:10	6:00	12:25	18:12
			0.9	11.3	1.0	10.9				1.0	11.4	1.2	11.0				0.6	11.7	0.8	11.8		
	S	9	0:54	6:42	13:15	18:57		E	Tu	9	1:28	7:24	13:45		19:35		Tu	9	0:34	6:27	12:47	18:38
			1.2	11.2	1.3	10.7				1.2	11.3	1.4	11.0				0.7	11.8	0.8	11.4		
	S	10	1:25	7:20	13:47	19:30			W	10	1:54	7:54	14:10		20:06		W	10	0:55	6:54	13:10	19:04
			1.5	11.0	1.6	10.5				1.3	11.2	1.5	10.8				0.8	11.8	1.0	11.5		
A	M	11	1:55	7:52	14:17	20:06	A	Th	11	2:24	8:28	14:40	20:42	A	Th	11	1:20	7:20	13:32	19:35		
			1.8	10.8	1.9	10.3				1.4	10.9	1.6	10.6				0.8	11.6	1.0	11.4		
	Tu	12	2:28	8:30	14:48	20:44			F	12	2:58	9:10	15:16		21:25		F	12	1:49	7:52	14:00	20:08
			2.0	10.5	2.1	10.1				1.6	10.6	1.8	10.2				1.0	11.3	1.2	11.1		
	W	13	3:04	9:10	15:25	21:26		C	S	13	3:40	9:55	16:00		22:18		S	13	2:22	8:30	14:38	20:50
			2.1	10.2	2.3	9.8				1.9	10.0	2.2	9.7				1.2	10.8	1.5	10.6		
	Th	14	3:45	9:57	16:06	22:16			S	14	4:30	10:54	17:00		23:25		S	14	3:04	9:15	15:23	21:42
			2.3	9.9	2.4	9.6				2.3	9.4	2.6	9.2				1.7	10.2	2.0	9.9		
	F	15	4:28	10:50	16:56	23:18			M	15	5:40	12:05	18:14			C	M	15	3:56	10:14	16:22	22:50
			2.4	9.6	2.6	9.3				2.7	9.1	2.9					2.3	9.4	2.7	9.2		
E	S	16	5:26	11:48	17:55		E	Tu	16	0:44	7:05	13:29	19:44	E	Tu	16	5:08	11:32	17:46			
			2.5	9.4	2.7					5.2	2.8	9.1	2.8				2.9	8.9	3.2			
	S	17	0:18	6:30	12:54	19:04			W	17	2:06	8:30	14:46		21:08		W	17	0:15	6:42	13:05	19:22
			9.3	2.6	9.3	2.6				9.7	2.4	9.7	2.1				9.0	3.1	8.8	3.0		
	M	18	1:28	7:42	14:04	20:14			Th	18	3:15	9:40	15:45		22:05		Th	18	1:45	8:16	14:30	20:48
			9.6	2.4	9.7	2.3				10.6	1.6	10.6	1.2				9.5	2.5	9.6	2.1		
	Tu	19	2:35	8:52	15:05	21:18			F	19	4:10	10:35	16:35		22:57		F	19	3:00	9:27	15:30	21:48
			10.1	1.9	10.2	1.8				11.5	0.7	11.5	0.2				10.6	1.5	10.7	1.0		
	W	20	3:32	9:52	15:57	22:16		●	S	20	5:00	11:25	17:20		23:48	●	S	20	3:54	10:20	16:18	22:38
			10.8	1.3	10.8	1.1		P		12.3	—0.1	12.2	—0.4				11.7	0.4	11.8	—0.1		
P	Th	21	4:22	10:48	16:46	23:06	P	S	21	5:42	12:10	18:03		P	S	21	4:40	11:05	17:00	23:22		
			11.5	0.8	11.4	0.6				12.9	—0.6	12.7					12.6	—0.4	12.6	—0.8		
	F	22	5:10	11:36	17:32	23:55			M	22	0:28	6:24	12:50		18:44		M	22	5:22	11:47	17:42	
			12.1	0.3	11.9	0.2				—0.8	13.3	—0.8	12.9				13.3	—0.9	13.1			
	S	23	5:55	12:22	18:16			E	Tu	23	1:08	7:05	13:30		19:24		Tu	23	0:05	6:03	12:26	18:20
			12.5	0.0	12.2					—0.8	13.3	—0.6	12.8				—1.2	13.6	—1.1	13.3		
	S	24	0:40	6:40	13:07	19:00			W	24	1:50	7:50	14:12		20:07		W	24	0:43	6:43	13:05	19:00
			—0.1	12.7	—0.1	12.2				—0.6	12.9	—0.2	12.4				—1.1	13.5	—0.8	13.1		
	M	25	1:26	7:25	13:52	19:46			Th	25	2:30	8:32	14:54		20:54		Th	25	1:24	7:22	13:45	19:42
			—0.1	12.6	0.0	12.1				0.0	12.2	0.4	11.6				—0.8	13.0	—0.3	12.5		
D	Tu	26	2:10	8:12	14:38	20:34	D	F	26	3:17	9:19	15:49	21:44	D	F	26	2:05	8:05	14:25	20:24		
			0.1	12.3	0.3	11.8				0.7	11.8	1.2	10.8				—0.1	12.1	0.5	11.7		
	W	27	2:58	9:00	15:24	21:24			S	27	4:08	10:15	16:35		22:45		S	27	2:50	8:50	15:12	21:14
			0.5	11.8	0.8	11.2				1.5	10.2	2.1	9.8				0.8	11.1	1.4	10.7		
	Th	28	3:47	9:54	16:15	22:20			S	28	5:10	11:24	17:48			N	S	28	3:40	9:42	16:06	22:11
			0.9	11.1	1.3	10.6				2.3	9.4	2.8					1.7	10.0	2.3	9.7		
	F	29	4:42	10:52	17:14	23:25												4:42	10:50	17:18	23:30	
			1.5	10.4	2.0	10.0												2.6	9.0	3.1	9.0	
	S	30	5:47	12:00	18:24														6:04	12:18	18:45	
			2.1	9.8	2.4														3.2	8.4	3.4	
D	S	31	0:38	7:00	13:15	19:38											0:56	7:35	13:48	20:08		
			9.5	2.4	9.6	2.5											8.8	3.2	8.8	2.9		

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil, for the meridian 6° 20' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; D, 1st quar.; ○, full moon; C, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.					MAY.					JUNE.										
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.					
	W.	Mo.					W.	Mo.					W.	Mo.						
A	Th	1	2:12 9.2	8:47 2.6	14:53 9.8	21:08 2.2	E	S	1	2:32 9.8	8:55 2.2	14:55 9.8	21:10 1.8	W	Tu	1	3:04 10.4	9:22 1.8	15:22 10.5	21:00 1.3
	F	2	3:13 10.0	9:41 1.9	15:38 10.0	21:55 1.5		S	2	3:13 10.9	9:36 1.7	15:40 10.4	21:50 1.3		W	2	3:43 10.8	10:00 1.6	16:02 10.9	22:00 1.2
	S	3	3:55 10.6	10:22 1.3	16:15 10.5	22:33 0.9		M	3	3:50 10.9	10:10 1.3	16:07 10.8	22:27 1.0		Th	3	4:20 11.0	10:38 1.2	16:38 11.2	22:50 1.0
	S	4	4:28 11.1	10:55 0.9	16:47 11.0	23:07 0.6		Tu	4	4:10 11.2	10:42 1.1	16:36 11.2	22:55 0.8		F	4	4:58 11.2	11:15 1.1	17:17 11.4	23:07 1.0
	M	5	5:00 11.5	11:20 0.7	17:13 11.3	23:33 0.6		W	5	4:54 11.5	11:10 0.9	17:07 11.4	23:25 0.7		S	5	5:35 11.3	11:53 1.1	17:57 11.5	23:30 1.0
	Tu	6	5:30 11.8	11:49 0.7	17:38 11.5	23:58 0.6		Th	6	5:23 11.6	11:39 0.9	17:37 11.6	23:57 0.7		S	6	6:17 1.0	12:31 1.3	18:34 1.2	23:50 1.0
	W	7	5:53 11.9	12:10 0.7	18:04 11.7	24:22 0.6		F	7	5:55 11.6	12:09 1.0	18:10 11.6	24:47 0.7		M	7	7:01 1.2	13:17 1.1	19:22 1.3	24:40 1.0
	Th	8	6:23 0.6	12:31 11.9	18:32 0.8	24:52 11.7		S	8	6:28 0.9	12:42 11.5	18:47 1.1	25:00 11.4		Tu	8	7:47 1.5	14:07 10.7	20:13 1.6	25:00 1.0
	F	9	6:50 0.7	12:50 11.7	19:05 1.0	25:15 11.5		S	9	7:06 1.2	13:20 11.1	19:28 1.4	25:28 11.1		W	9	8:38 1.7	15:02 10.4	21:11 1.9	25:40 1.0
	S	10	7:25 1.0	13:35 11.3	19:42 1.2	25:42 11.1		M	10	7:49 1.6	14:07 10.6	20:17 1.8	25:57 10.6		Th	10	9:38 2.0	16:08 10.0	22:16 2.0	26:00 1.0
S	S	11	7:57 1.3	14:02 10.8	20:27 1.7	26:07 10.5	C	Tu	11	8:40 2.0	15:00 10.0	21:16 2.3	26:16 10.0	C	F	11	10:48 2.1	17:08 9.9	23:24 2.1	26:10 1.0
	M	12	8:50 1.9	15:08 10.0	21:23 2.2	26:36 9.8		W	12	9:47 2.5	16:08 9.4	22:28 2.7	26:28 9.6		S	12	11:58 2.1	18:15 9.9	24:15 2.0	26:20 1.0
	Tu	13	9:53 2.5	16:08 9.3	22:36 2.8	26:52 9.2		Th	13	11:07 2.7	17:27 9.2	23:47 2.8	26:47 9.5		S	13	13:17 10.3	19:17 1.9	25:20 1.0	26:30 1.0
	W	14	11:18 3.0	17:35 8.8	23:52 3.2	27:08 9.2		F	14	12:28 2.6	18:47 9.4	24:57 2.4	27:07 9.2		M	14	14:07 10.5	20:17 1.6	26:30 1.0	26:40 1.0
	Th	15	12:50 9.0	19:09 8.0	25:29 8.9	27:39 2.9		S	15	13:40 10.0	19:56 2.0	26:55 1.6	27:35 1.6		Tu	15	15:01 11.0	21:20 1.1	27:40 1.1	26:50 1.0
	F	16	14:10 9.6	20:24 2.3	26:58 9.8	27:58 1.8		S	16	14:38 10.8	20:53 1.3	27:53 1.0	28:08 0.8		W	16	15:50 11.3	22:30 0.8	28:15 1.5	27:00 0.5
	S	17	15:07 10.7	21:23 1.3	27:58 10.9	28:07 0.7		M	17	15:27 11.6	21:44 0.6	28:17 1.7	28:22 0.2		Th	17	16:37 11.5	23:00 0.6	28:20 1.7	27:10 0.4
	S	18	15:54 11.8	22:13 0.3	28:19 11.9	28:12 -0.2		Tu	18	16:10 12.2	22:33 0.1	28:33 12.2	28:33 -0.3		F	18	17:25 11.6	23:50 0.6	28:30 1.7	27:20 0.5
	M	19	16:37 12.6	22:55 -0.4	28:37 12.6	28:08 -0.8		W	19	16:55 12.4	23:17 -0.2	28:55 12.4	28:17 -0.4		S	19	18:06 11.5	24:15 0.7	28:30 1.6	27:30 1.0
	Tu	20	17:18 13.1	23:38 -0.8	28:58 13.0	28:10 -1.0		Th	20	17:37 12.5	23:57 -0.1	29:07 12.4	28:37 1.1		S	20	19:15 0.7	25:00 11.2	28:45 1.0	27:40 1.1
N	W	21	17:55 13.3	24:15 -0.8	29:05 13.0	28:15 -1.0	N	F	21	18:17 -0.2	24:57 12.3	29:27 0.2	28:37 1.2	M	21	20:00 1.1	25:45 10.9	29:15 1.3	27:50 1.1	
	Th	22	18:35 -0.8	24:52 18.1	29:22 -0.5	28:35 12.7		S	22	18:59 0.2	25:33 11.8	29:59 0.7	28:59 1.7		Tu	22	21:17 1.5	26:30 10.4	30:00 1.7	28:00 1.0
	F	23	19:17 -0.4	25:30 12.5	29:42 0.1	28:52 12.2		S	23	19:43 0.8	26:17 11.1	30:43 1.3	29:17 1.1		W	23	22:30 2.0	27:15 10.0	30:30 2.1	28:10 1.0
	S	24	20:00 0.3	26:15 11.6	30:00 0.9	29:14 11.4		M	24	20:31 1.5	27:04 10.4	31:04 1.9	29:31 1.0		Th	24	23:45 2.3	28:00 9.7	31:00 2.4	28:20 0.9
	S	25	20:50 1.2	27:00 10.7	30:50 1.7	29:50 10.5		Tu	25	21:25 2.1	27:57 9.7	31:57 2.5	29:57 9.8		F	25	24:30 2.5	29:00 9.4	31:50 2.6	28:30 0.9
	M	26	21:48 2.0	27:55 9.7	31:48 2.5	30:06 9.6		W	26	22:25 2.6	28:52 9.2	32:25 2.9	30:05 9.4		S	26	25:45 2.7	30:00 9.2	32:00 2.7	28:40 0.9
	Tu	27	22:50 2.8	28:50 8.9	32:00 8.1	30:10 9.0		Th	27	23:32 3.0	29:43 8.9	32:52 3.0	30:12 9.2		S	27	27:00 2.8	31:00 9.1	32:30 2.8	28:50 1.0
	W	28	23:50 3.2	29:45 8.6	32:50 8.3	30:20 9.0		F	28	24:15 3.0	30:30 8.9	33:15 2.9	30:27 9.1		M	28	28:30 9.4	32:00 2.8	33:00 9.3	29:00 1.0
	Th	29	24:50 8.9	30:35 8.2	33:00 8.7	30:30 9.0		S	29	25:00 9.2	31:15 2.9	33:45 9.1	30:37 2.7		Tu	29	29:45 9.5	33:00 2.6	33:30 9.6	29:10 1.0
	A	F	30	1:35 9.1	8:08 2.8	14:10 9.2		20:23 2.4	E	S	30	1:34 9.5	7:52 2.6		14:00 9.5	20:17 2.3	W	30	2:18 9.8	8:30 2.3	14:43 10.1	20:00 1.0
							M	31	2:23 10.0	8:38 2.2	14:42 10.0	20:57 1.9								

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart unless a minus (-) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil, for the meridian 6° 20' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.						AUGUST.						SEPTEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
☾	Th	1	3:08	9:22	15:32	21:50	☾	S	1	4:24	10:45	16:48	23:14	P	W	1	5:39	12:00	18:00	23:59
			10.3	1.8	10.7	1.5				10.9	1.0	11.6	0.7			12.5	—0.6	18.1	1.1	
	F	2	3:55	10:11	16:17	22:38		M	2	5:10	11:33	17:34	23:59	E	Th	2	6:24	6:19	12:41	18:41
			10.7	1.5	11.1	1.2				11.4	0.5	12.1	0.0			—0.6	12.8	—0.7	13.3	
	S	3	4:39	10:58	17:02	23:25		Th	3	6:00	5:55	12:18	18:18		F	3	1:05	7:00	13:23	19:22
☾			11.0	1.2	11.4	1.0				0.3	11.8	0.2	12.4			—0.6	12.8	—0.6	13.0	
	S	4	5:22	11:42	17:45	24:10	P	W	4	6:45	6:38	13:02	19:02		S	4	1:45	7:42	14:06	20:07
			11.2	1.0	11.7	1.1				0.1	12.1	0.0	12.6			—0.3	12.5	—0.2	12.4	
	M	5	6:10	6:04	12:28	18:28		Th	5	7:28	7:22	13:47	19:47		S	5	2:28	8:27	14:50	20:52
			0.9	11.4	0.9	11.8				0.1	12.1	0.1	12.4			0.3	11.9	0.5	11.5	
☾	Tu	6	6:56	6:49	13:13	19:16	E	F	6	8:12	8:08	14:32	20:31	☾	M	6	3:15	9:16	15:42	21:45
			0.8	11.4	0.9	11.8				0.3	11.9	0.3	12.0			1.0	11.0	1.3	10.5	
	W	7	7:42	7:37	14:02	20:05		S	7	8:57	8:55	15:20	21:23		Tu	7	4:09	10:15	16:42	22:52
			1.0	11.3	1.0	11.6				0.6	11.5	0.7	11.4			1.9	10.1	2.1	9.6	
	Th	8	8:30	8:27	14:52	20:57	☾	S	8	9:47	9:48	16:12	22:18	N	W	8	5:17	11:28	18:00	23:59
☾			1.1	11.0	1.1	11.3				1.1	10.9	1.3	10.7			2.7	9.4	2.7	9.4	
	F	9	9:22	9:21	15:45	21:53		M	9	10:40	10:48	17:12	23:24		Th	9	6:15	6:42	12:53	19:27
			1.3	10.8	1.3	10.9				1.7	10.3	1.8	10.0			9.0	3.0	9.1	2.8	
	S	10	10:16	10:20	16:42	22:53		Tu	10	11:38	11:58	18:23	24:31		F	10	1:42	8:05	14:14	20:45
			1.5	10.5	1.5	10.6				2.2	9.7	2.3	2.0			9.1	2.7	9.5	2.3	
☾	S	11	11:12	11:24	17:43	23:58		W	11	12:37	7:00	13:14	19:40		S	11	2:58	9:11	15:17	21:45
			1.8	10.2	1.8	10.3				9.6	2.5	9.5	2.3			9.6	2.0	10.2	1.7	
	M	12	12:12	12:32	18:51	24:10	N	Th	12	1:36	8:17	14:27	20:55		S	12	3:45	10:04	16:04	22:33
			2.0	10.0	1.8	1.1				9.6	2.4	9.9	2.0			10.2	1.3	10.8	1.1	
	Tu	13	1:05	7:25	13:38	20:00		F	13	2:30	9:25	15:28	21:56		M	13	4:25	10:47	16:42	23:12
☾			10.2	2.0	10.2	1.7				9.9	1.9	10.4	1.5			10.7	0.7	11.3	0.7	
	W	14	2:13	8:32	14:42	21:04		S	14	3:57	10:20	16:17	22:48	☾	Tu	14	5:08	11:24	17:17	23:45
			10.3	1.8	10.5	1.5				10.3	1.3	10.8	1.1			11.0	0.4	11.6	0.5	
	Th	15	3:12	9:34	15:37	22:02	☾	S	15	4:43	11:07	17:01	23:32		W	15	5:33	11:55	17:47	24:31
			10.5	1.5	10.8	1.1				10.7	0.9	11.2	0.8			11.3	0.4	11.7	0.4	
☾	F	16	4:04	10:28	16:27	22:56		M	16	5:23	11:47	17:38	24:24	E	Th	16	6:12	5:58	12:21	18:13
			10.8	1.1	11.1	0.9				10.9	0.6	11.4	1.1			0.7	11.4	0.6	11.8	
	S	17	4:51	11:20	17:12	23:43		Tu	17	6:10	5:57	12:24	18:13		F	17	6:36	6:23	12:44	18:39
			10.9	0.8	11.3	0.8				0.7	11.0	0.6	11.5			0.8	11.4	0.8	11.7	
	S	18	5:33	12:02	17:52	24:31		W	18	6:43	6:27	12:54	18:43		S	18	6:58	6:50	13:08	19:06
☾			11.0	0.8	11.4	0.8				0.9	11.1	0.8	11.5			1.0	11.4	1.0	11.5	
	M	19	6:12	6:12	12:42	18:31	A	Th	19	7:12	6:57	13:21	19:13		S	19	7:20	7:17	13:33	19:25
			0.9	11.0	0.9	11.3	E			1.1	11.0	1.1	11.4			1.2	11.2	1.2	11.2	
	Tu	20	7:05	6:48	13:18	19:08		F	20	7:37	7:24	13:45	19:44		M	20	7:45	7:50	14:05	20:08
			1.1	10.8	1.2	11.2				1.3	11.0	1.3	11.2			1.4	11.0	1.5	10.7	
☾	W	21	7:41	7:24	13:53	19:45		S	21	8:01	7:54	14:14	20:15		Tu	21	8:18	8:28	14:42	20:51
			1.4	10.6	1.5	11.0				1.5	10.8	1.5	10.9			1.7	10.5	1.9	10.1	
	Th	22	8:13	8:00	14:25	20:21		S	22	8:30	8:28	14:45	20:50	☾	W	22	8:30	9:17	15:32	21:45
			1.7	10.4	1.7	10.7				1.7	10.6	1.7	10.5			2.2	9.9	2.4	9.4	
	F	23	8:45	8:37	14:57	21:00		M	23	9:01	9:08	15:23	21:34		Th	23	8:57	10:21	16:37	22:00
☾			1.9	10.2	2.0	10.4				1.9	10.2	2.0	10.0			2.7	9.2	3.0	8.8	
	S	24	9:17	9:15	15:34	21:41	☾	Tu	24	9:42	9:56	16:12	22:28		F	24	9:12	11:43	18:06	23:00
			2.2	10.0	2.1	10.1				2.3	9.7	2.4	9.4			3.2	8.9	3.2	8.9	
	S	25	9:55	10:00	16:17	22:30		W	25	10:35	10:59	17:13	23:37		S	25	9:30	6:46	13:12	19:43
			2.4	9.7	2.3	9.7				2.7	9.2	2.8	9.0			8.6	3.2	9.2	2.8	
☾	M	26	10:39	10:51	17:06	23:24		Th	26	11:25	12:13	18:33	24:31		S	26	2:00	8:15	14:30	20:55
			2.6	9.4	2.6	9.4				3.0	9.0	3.0	2.0			9.3	2.4	10.2	1.8	
	Tu	27	11:22	11:52	18:05	24:10	☾	F	27	12:17	7:10	13:36	20:20		M	27	3:02	9:18	15:27	21:50
			2.7	9.2	2.7	9.2				8.9	3.0	9.3	2.7			10.4	1.3	11.3	0.8	
	W	28	12:07	6:35	12:57	19:13		S	28	2:17	8:31	14:49	21:12	☾	Tu	28	3:52	10:10	16:15	22:38
☾			9.2	2.8	9.3	2.6				9.4	2.5	10.2	2.0			11.4	0.3	12.4	—0.2	
	Th	29	1:35	7:43	14:07	20:23		S	29	3:19	9:35	15:45	22:10		W	29	4:57	10:56	16:57	23:20
			9.3	2.7	9.7	2.3				10.2	1.6	11.1	1.1			12.4	—0.6	13.1	—0.8	
	F	30	2:39	8:52	15:07	21:28		M	30	4:10	10:32	16:33	22:59		Th	30	5:16	11:36	17:38	23:59
			9.8	2.2	10.3	1.9				11.1	0.6	12.0	0.3			13.0	—1.0	13.5	—1.0	
☾	S	31	3:35	9:51	16:00	22:24	☾	Tu	31	4:56	11:17	17:18	23:42							
			10.3	1.7	11.0	1.2				11.9	—0.1	12.7	—0.3							

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil, for the meridian 6° 20' W.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

☾, new moon; ☾, 1st quar.; ☾, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.				NOVEMBER.				DECEMBER.			
Moon.	Day of—	Time and Height of High and Low Water.				Moon.	Day of—	Time and Height of High and Low Water.			
	W. Mo.						W. Mo.				
	F 1	5:55	12:17	18:17	18.3		M 1	0:56	6:54	13:20	19:16
	S 2	0:39	6:35	12:58	18:56		Tu 2	1:40	7:38	14:06	20:01
	S 3	1:20	7:16	13:40	19:30		W 3	2:28	8:27	14:58	20:54
	M 4	2:01	8:00	14:25	20:23		Th 4	3:22	9:25	15:50	21:50
	Tu 5	2:48	8:50	15:17	21:17		F 5	4:30	10:37	17:15	23:21
	W 6	3:42	9:48	16:19	22:25		S 6	5:49	11:59	18:38	24:59
	Th 7	4:53	11:03	17:40	23:53		S 7	0:47	7:04	13:15	19:44
	F 8	6:21	12:32	19:10	25:21		M 8	1:54	8:06	14:15	20:38
	S 9	1:24	7:43	13:53	20:23		Tu 9	2:41	8:56	15:00	21:23
	S 10	2:32	8:47	14:55	21:20		W 10	3:20	9:36	15:38	21:59
	M 11	3:21	9:37	15:39	22:03		Th 11	3:55	10:13	16:10	22:31
	Tu 12	4:00	10:18	16:15	22:40		F 12	4:25	10:44	16:40	23:00
	W 13	4:32	10:52	16:47	23:12		S 13	4:55	11:14	17:10	23:27
	Th 14	5:00	11:22	17:15	23:37		S 14	5:23	11:42	17:40	23:54
	F 15	5:25	11:47	17:40	24:00		M 15	5:56	12:11	18:10	24:21
	S 16	0:00	5:52	12:12	18:07		Tu 16	0:28	6:27	12:44	18:44
	S 17	0:25	6:18	12:35	18:33		W 17	0:58	7:05	13:21	19:23
	M 18	0:45	6:47	13:02	19:04		Th 18	1:39	7:50	14:06	20:10
	Tu 19	1:14	7:22	13:35	19:40		F 19	2:27	8:44	15:04	21:09
	W 20	1:50	8:02	14:16	20:22		S 20	3:30	9:49	16:11	22:24
	Th 21	2:35	8:53	15:09	21:20		S 21	4:44	11:06	17:31	23:48
	F 22	3:35	10:00	16:19	22:39		M 22	6:05	12:24	18:50	25:11
	S 23	4:56	11:24	17:51	24:00		Tu 23	1:04	7:19	13:35	19:56
	S 24	0:11	6:29	12:54	19:21		W 24	2:08	8:21	14:35	20:53
	M 25	1:36	7:51	14:05	20:29		Th 25	3:00	9:16	15:24	21:42
	Tu 26	2:38	8:54	15:04	21:23		F 26	3:46	10:05	16:10	22:30
	W 27	3:28	9:44	15:50	22:10		S 27	4:30	10:51	16:52	23:15
	Th 28	4:11	10:30	16:32	22:52		S 28	5:12	11:38	17:35	23:58
	F 29	4:51	11:11	17:13	23:34		M 29	5:55	12:21	18:17	24:40
	S 30	5:31	11:54	17:53	24:11		Tu 30	0:42	6:39	13:08	19:00
	S 31	0:15	6:11	12:36	18:34						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the Admiralty Charts for this region, and which is 6.0 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Dublin Mean Civil, for the meridian 6° 20' W.; 0° is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15.45 is 3:45 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JANUARY.										FEBRUARY.										MARCH.									
Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.							Moon.	Day of—		Time and Height of High and Low Water.						
	W.	Mo.							W.		Mo.							W.	Mo.										
N C	F	1	6:48 0.9	12:20 6.8	19:48 0.4					M	1	1:12 5.8	8:38 0.6	13:47 6.0	21:15 0.4				N	M	1	7:00 1.1	12:08 5.9	19:35 1.0					
	S	2	0:46 5.7	7:58 0.6	13:23 6.7	20:50 0.1				N	Tu	2	2:20 5.8	9:50 0.4	14:53 5.8	22:17 0.2				Tu	2	0:35 5.8	8:12 1.0	13:09 5.5	20:39 0.9				
	S	3	1:54 5.8	9:06 0.3	14:27 6.5	21:49 -0.1				W	3	3:28 5.9	10:58 0.2	15:58 5.6	23:13 -0.1				W	3	1:43 5.7	9:27 0.8	14:17 5.2	21:45 0.6					
	M	4	3:00 5.9	10:14 0.0	15:30 6.4	22:47 -0.4				Th	4	4:32 6.0	11:53 0.0	16:57 5.5				Th	4	2:54 5.8	10:33 0.5	15:26 5.1	22:45 0.3						
	Tu	5	4:03 6.1	11:17 -0.3	16:28 6.2	23:40 -0.5				F	5	0:05 -0.2	5:25 6.1	12:47 0.0	17:46 5.4				F	5	4:00 5.9	11:30 0.3	16:30 5.1	23:40 0.0					
	W	6	5:00 6.2	12:13 -0.3	17:22 5.9					S	6	0:52 -0.2	6:12 6.3	13:33 0.1	18:25 5.3				S	6	4:58 6.1	12:22 0.1	17:22 5.2						
	Th	7	0:30 -0.5	5:48 6.3	13:06 -0.2	18:08 5.7				S	7	1:32 0.0	6:50 6.4	14:04 0.3	18:56 5.4				S	7	0:22 -0.1	5:46 6.2	13:07 0.1	18:03 5.4					
	F	8	1:13 -0.3	6:33 6.4	13:55 0.1	18:45 5.5				M	8	2:08 0.2	7:23 6.5	14:48 0.5	19:26 5.5				M	8	1:10 0.0	6:25 6.4	13:46 0.2	18:37 5.5					
	S	9	1:52 0.0	7:10 6.5	14:35 0.4	19:17 5.4				Tu	9	2:37 0.6	7:57 6.7	15:13 0.8	19:57 5.8				Tu	9	1:45 0.1	6:58 6.5	14:18 0.3	19:07 5.8					
	S	10	2:27 0.4	7:45 6.5	15:14 0.7	19:46 5.4				W	10	2:55 1.0	8:30 6.9	15:38 0.9	20:34 6.1				W	10	2:15 0.4	7:31 6.7	14:43 0.6	19:37 6.1					
A E	M	11	2:57 0.8	8:20 6.7	15:44 1.0	20:18 5.5			Th	11	2:58 1.0	9:08 7.0	15:59 0.9	21:12 6.4				Th	11	2:37 0.8	8:02 6.9	15:01 0.8	20:12 6.4						
	Tu	12	3:10 1.2	8:57 6.8	16:13 1.1	20:57 5.7			F	12	3:23 0.8	9:50 7.1	16:28 0.8	22:05 6.5				F	12	2:37 0.9	7:38 7.0	15:12 0.7	20:52 6.7						
	W	13	3:04 1.2	9:37 6.8	16:45 1.2	21:43 5.9			S	13	4:10 0.7	10:37 7.1	17:17 0.8	23:00 6.6				S	13	3:05 0.7	9:18 7.1	15:40 0.6	21:38 6.9						
	Th	14	3:47 1.1	10:23 6.9	17:25 1.1	22:35 6.0			S	14	5:13 0.9	11:30 6.9	18:20 0.9				S	14	3:48 0.6	10:04 7.1	16:22 0.5	22:30 6.9							
	F	15	4:38 1.1	11:13 6.8	18:20 1.0	23:33 6.1			M	15	0:00 6.5	6:38 1.2	12:31 6.6	19:42 0.8				M	15	4:45 0.7	10:57 6.9	17:21 0.8	23:28 6.8						
	S	16	5:55 1.3	12:08 6.7	19:25 0.8				Tu	16	1:08 6.4	8:20 0.9	13:38 6.4	20:57 0.5				Tu	16	6:05 1.0	11:58 6.5	18:45 1.0							
	S	17	0:37 6.1	7:42 1.2	13:09 6.6	20:32 0.5			W	17	2:17 6.4	9:38 0.4	14:47 6.2	22:06 0.0				W	17	0:34 6.7	7:48 0.9	13:05 6.2	20:20 0.7						
	M	18	1:44 6.1	9:00 0.8	14:13 6.4	21:37 0.2			Th	18	3:27 6.5	10:47 0.0	15:56 6.1	23:08 -0.3				Th	18	1:45 6.6	9:08 0.4	14:20 6.0	21:35 0.2						
	Tu	19	2:51 6.2	10:08 0.4	15:17 6.3	22:37 -0.1			F	19	4:31 6.7	11:59 -0.4	17:00 6.1					F	19	2:57 6.7	10:21 -0.1	15:33 6.0	22:10 -0.3						
	S	W	20	3:56 6.3	11:12 0.1	16:18 6.2	23:34 -0.4			S	20	0:06 -0.6	5:28 6.9	12:44 -0.6	17:57 6.1				S	20	4:04 6.9	11:23 -0.6	16:41 6.1	23:40 -0.7					
P E	Th	21	4:55 6.5	12:12 -0.1	17:16 6.1				S	21	0:55 -0.7	6:20 7.1	13:33 -0.7	18:44 6.1				S	21	5:05 7.1	12:19 -1.0	17:38 6.2							
	F	22	0:16 -0.4	5:47 6.7	13:05 -0.2	18:07 6.0			M	22	1:40 -0.7	7:06 7.2	14:19 -0.6	19:25 6.1				M	22	0:32 -1.0	5:58 7.3	13:09 -1.1	18:27 6.3						
	S	23	1:12 -0.4	6:35 6.9	13:53 -0.2	18:52 6.0			Tu	23	2:22 -0.5	7:45 7.2	15:00 -0.4	20:02 6.1				Tu	23	1:20 -0.9	6:45 7.3	13:55 -1.0	19:08 6.3						
	S	24	1:55 -0.2	7:17 7.0	14:36 -0.1	19:33 5.9			W	24	3:00 -0.2	8:25 7.2	15:40 -0.1	20:35 6.1				W	24	2:03 -0.8	7:27 7.2	14:38 -0.7	19:45 6.3						
	M	25	2:36 0.0	7:58 7.1	15:18 0.1	20:11 5.9			Th	25	3:37 0.2	9:03 7.1	16:17 0.3	21:13 6.1				Th	25	2:44 -0.4	8:04 7.1	15:15 -0.2	20:18 6.3						
	Tu	26	3:12 0.3	8:40 7.2	15:58 0.3	20:50 5.9			F	26	4:15 0.6	9:43 6.9	16:55 0.6	21:52 6.1				F	26	3:23 0.0	8:40 6.8	15:51 0.2	20:53 6.3						
	W	27	3:48 0.6	9:22 7.2	16:38 0.4	21:31 5.9			S	27	4:57 0.9	10:26 6.7	17:40 0.9	22:40 6.1				S	27	4:02 0.4	9:18 6.5	16:27 0.7	21:30 6.3						
	Th	28	4:25 0.8	10:07 7.1	17:23 0.6	22:17 5.9			S	28	5:58 1.0	11:13 6.8	18:33 1.1	23:34 6.0				S	28	4:45 0.9	9:56 6.2	17:06 1.1	22:14 6.2						
	F	29	5:07 1.0	10:56 6.9	18:13 0.7	23:10 5.9												N	M	29	5:37 1.1	10:39 5.9	17:53 1.4	23:05 6.1					
	S	30	6:14 1.0	11:48 6.7	19:11 0.7														Tu	30	6:40 1.3	11:29 5.5	18:56 1.5						
S	31	0:08 5.8	7:28 0.9	12:45 6.4	20:12 0.6													W	31	0:03 5.9	7:51 1.2	12:30 5.2	20:03 1.3						

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central European, for the meridian 15° E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a.m.), all greater are in the afternoon (p.m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p.m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

APRIL.										MAY.										JUNE.												
Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.								Moon.	Day of—		Time and Height of High and Low Water.							
	W.	Mo.										W.	Mo.										W.	Mo.								
A	Th	1	1:10 5.8	9:02 1.0	13:39 4.9	21:11 0.9	A	S	1	1:43 6.0	9:28 0.7	14:12 5.0	21:36 0.7	C	Tu	1	3:04 6.3	10:31 0.1	15:36 5.7	22:04 0.4												
	F	2	2:19 5.8	10:04 0.7	14:50 4.9	22:15 0.5	E	S	2	2:46 6.1	10:24 0.8	15:18 5.2	22:34 0.4		W	2	3:55 6.3	11:20 -0.1	16:30 5.9	22:50 0.2												
	S	3	3:25 5.9	11:01 0.3	15:57 5.1	23:10 0.2	M	S	3	3:45 6.2	11:13 0.0	16:15 5.4	23:27 0.2		Th	3	4:45 6.3	12:05 -0.1	17:16 6.1	23:50 0.1												
	S	4	4:25 6.1	11:50 0.1	16:52 5.3	23:50 0.0	Tu	S	4	4:35 6.3	11:58 -0.1	17:03 5.7	23:50 0.0		○ F	4	0:32 0.3	5:30 6.2	12:46 6.0	19:40 0.4												
	M	5	0:00 0.0	5:13 6.2	12:35 0.0	17:36 5.5	○ W	S	5	0:15 0.1	5:20 6.3	12:38 0.0	17:45 5.9		S	5	1:16 0.4	6:10 6.1	13:25 6.2	19:40 0.4												
E	Tu	6	0:43 0.0	5:55 6.4	13:15 0.0	18:12 5.7	Th	S	6	0:57 0.2	5:59 6.3	13:15 0.1	18:21 6.1	S	S	6	1:56 0.7	6:48 6.1	14:00 6.0	19:50 0.6												
	W	7	1:22 0.1	6:30 6.5	13:46 0.2	18:44 6.0	F	S	7	1:35 0.5	6:34 6.3	13:46 0.4	18:57 6.4	M	7	2:31 0.8	7:25 6.0	14:25 6.0	20:50 0.9													
	Th	8	1:54 0.4	7:02 6.6	14:12 0.5	19:17 6.3	S	S	8	2:05 0.8	7:07 6.4	14:10 0.7	19:32 6.6	Tu	8	3:10 1.0	8:05 6.0	14:40 6.1	21:40 0.9													
	F	9	2:20 0.8	7:34 6.7	14:28 0.8	19:50 6.6	S	S	9	2:33 1.0	7:44 6.4	14:20 0.9	20:12 6.8	W	9	3:52 1.0	8:51 6.0	15:00 6.1	22:30 1.0													
	S	10	2:30 1.0	8:08 6.8	14:37 0.8	20:30 6.8	M	S	10	2:58 1.0	8:24 6.4	14:38 0.8	20:56 7.0	Th	10	4:40 0.9	9:42 6.0	15:55 6.1	23:20 1.1													
S	S	11	2:52 0.8	8:48 6.9	15:03 0.6	21:14 7.0	Tu	S	11	3:38 1.0	9:10 6.4	15:17 0.8	21:45 7.0	○ F	11	5:40 0.7	10:40 6.0	17:10 6.1	23:50 1.1													
	M	12	3:32 0.7	9:34 6.8	15:44 0.6	22:05 7.0	○ W	S	12	4:35 0.9	10:03 6.3	16:07 0.9	22:40 7.0	S	12	6:42 0.4	11:43 6.0	18:36 6.0	24:50 0.9													
	○ Tu	13	4:32 0.8	10:27 6.6	16:38 0.8	23:02 6.9	Th	S	13	5:49 0.8	11:03 6.1	17:24 1.2	23:42 7.0	S	13	0:20 7.1	7:45 0.1	12:50 6.0	19:50 0.4													
	W	14	5:52 0.9	11:28 6.3	17:55 1.1	23:50 7.0	F	S	14	7:08 0.6	12:10 6.0	19:10 0.9	24:50 7.0	M	14	1:25 7.1	8:50 -0.2	13:58 6.0	21:00 0.4													
	Th	15	0:06 6.8	7:25 0.7	12:37 6.1	19:45 0.9	S	S	15	0:48 7.0	8:15 0.2	13:22 5.9	20:28 0.4	Tu	15	2:28 7.0	9:48 -0.5	15:14 6.2	22:00 -0.4													
P	F	16	1:15 6.8	8:42 0.3	13:52 5.9	21:02 0.3	E S	S	16	1:57 7.0	9:20 -0.4	14:35 6.0	21:37 -0.2	W	16	3:30 7.0	10:45 -0.7	16:05 6.3	23:00 -0.5													
	S	17	2:28 6.8	9:52 -0.3	15:07 6.0	22:10 -0.3	M	S	17	3:08 7.1	10:22 -0.8	15:42 6.2	22:39 -0.6	Th	17	4:30 6.8	11:40 -0.8	17:00 6.4	23:50 0.4													
	S	18	3:35 7.1	10:54 -0.8	16:14 6.1	23:10 -0.7	Tu	S	18	4:05 7.2	11:18 -1.0	16:41 6.4	23:37 -0.8	● F	18	0:09 -0.6	5:22 6.5	12:30 -0.8	17:50 6.5													
	M	19	4:37 7.3	11:50 -1.1	17:13 6.3	23:50 0.0	● W	S	19	5:02 7.2	12:10 -1.1	17:33 6.5	24:50 0.0	N S	19	1:00 -0.5	6:10 6.1	13:17 -0.5	18:50 6.5													
	● Tu	20	0:05 -1.0	5:32 7.3	12:41 -1.2	18:02 6.5	Th	S	20	0:31 -0.8	5:58 7.0	13:00 -1.0	18:20 6.5	S	20	1:32 -0.2	6:50 5.8	14:00 -0.2	19:50 6.5													
N	W	21	0:55 -1.0	6:20 7.3	13:27 -1.0	18:46 6.5	F	S	21	1:22 -0.7	6:38 6.7	13:43 -0.7	19:00 6.5	M	21	2:40 0.1	7:30 5.5	14:40 0.5	20:50 6.5													
	Th	22	1:43 -0.8	7:08 7.1	14:11 -0.7	19:23 6.5	N S	S	22	2:11 -0.3	7:18 6.3	14:25 -0.2	19:38 6.5	Tu	22	3:25 0.5	8:00 5.3	15:12 0.7	21:50 6.5													
	F	23	2:27 -0.4	7:42 6.7	14:50 -0.2	19:58 6.4	S	S	23	2:57 0.1	7:53 5.9	15:02 0.3	20:14 6.4	W	23	4:06 0.9	8:32 5.3	15:48 1.0	22:50 6.5													
	S	24	3:10 0.0	8:17 6.4	15:27 0.3	20:33 6.4	M	S	24	3:42 0.5	8:26 5.6	15:37 0.9	20:53 6.4	Th	24	4:45 1.1	9:10 5.3	16:10 1.5	23:50 6.5													
	S	25	3:52 0.5	8:52 6.0	16:02 0.8	21:10 6.3	Tu	S	25	4:25 0.9	8:59 5.4	16:12 1.3	21:33 6.4	○ F	25	5:25 1.2	9:55 5.4	16:20 1.1	24:50 6.5													
D	M	26	4:35 0.9	9:27 5.7	16:37 1.3	21:52 6.3	W	S	26	5:09 1.2	9:38 5.2	16:38 1.7	22:18 6.3	E S	26	6:10 1.0	10:46 5.5	17:15 1.1	25:50 6.5													
	○ Tu	27	5:25 1.2	10:07 5.5	17:16 1.6	22:40 6.2	○ Th	S	27	5:59 1.3	10:25 5.2	17:42 1.9	23:08 6.3	S	27	7:00 1.0	11:45 5.6	18:55 1.3	26:50 6.5													
	W	28	6:22 1.3	10:55 5.2	18:16 1.7	23:35 6.0	A F	S	28	6:53 1.2	11:20 5.1	18:40 1.5	23:50 6.3	M	28	0:25 6.5	7:55 0.7	12:48 5.7	27:50 1.1													
	Th	29	7:26 1.2	11:53 5.0	19:25 1.5	24:20 6.0	S	S	29	0:05 6.2	7:48 1.0	12:23 5.1	19:48 1.2	Tu	29	1:22 6.5	8:50 0.5	13:55 5.8	28:50 0.7													
	F	30	0:37 6.0	8:30 1.0	13:00 4.9	20:32 1.1	E S	S	30	1:05 6.2	8:44 0.7	13:30 5.2	20:53 0.9	W	30	2:20 6.4	9:46 0.2	14:55 5.9	29:50 0.5													
							M	31	2:05 6.3	9:38 0.4	14:35 5.5	21:55 0.5																				

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (—) sign is before the height, in which case subtract it.

The time used is Central European, for the meridian 15° E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

JULY.					AUGUST.					SEPTEMBER.										
Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.				Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.						W.	Mo.						W.	Mo.				
U	Th	1	3:20 6.8	10:40 0.0	15:55 6.1	23:12 0.3	○	S	1	4:45 6.0	12:00 6.7	17:20 6.1	P	W	1	1:05 -0.1	6:29 6.1	13:15 -0.6	18:40 7.1	
	F	2	4:15 6.2	11:35 0.9	16:55 6.2			M	2	0:40 0.0	5:40 5.9	12:50 -0.3	E	Th	2	1:55 -0.1	7:00 6.1	14:00 -0.4	19:20 7.2	
	S	3	0:07 0.2	5:05 6.1	12:25 0.1	17:40 6.3		Tu	3	1:30 -0.1	6:30 5.4	13:30 -0.2		F	3	2:35 -0.4	7:40 6.1	14:40 -0.2	20:00 7.2	
	S	4	1:00 0.3	5:54 6.0	13:05 0.0	18:25 6.5	P	W	4	2:15 0.0	7:10 5.8	14:15 0.0		S	4	3:15 -0.1	8:15 6.1	15:15 0.2	20:40 7.1	
	M	5	1:45 0.4	6:35 5.4	13:48 0.3	19:12 6.7		Th	5	2:55 0.1	7:50 5.8	14:53 0.3		S	5	3:55 0.2	8:50 6.1	15:55 0.4	21:20 6.9	
P	Tu	6	2:25 0.5	7:15 5.8	14:25 0.5	19:50 6.8	E	F	6	3:35 0.3	8:30 5.9	15:30 0.6	○	M	6	4:30 0.6	9:30 6.2	16:30 0.8	22:00 6.7	
	W	7	3:10 0.6	8:00 5.8	15:00 0.8	20:30 7.0		S	7	4:15 0.4	9:10 6.0	16:05 0.8		Tu	7	5:10 1.0	10:22 6.1	17:23 1.2	22:50 6.3	
	Th	8	3:50 0.6	8:40 5.8	15:31 1.0	21:15 7.1	○	S	8	5:00 0.5	9:55 6.0	16:50 0.9	N	W	8	6:03 0.8	11:15 6.1	18:30 1.2	23:45 6.0	
	F	9	4:30 0.7	9:25 5.9	16:00 1.1	22:10 7.1		M	9	5:45 0.7	10:45 6.0	17:50 0.9		Th	9	7:05 1.8	12:15 5.9	19:45 1.1		
	S	10	5:20 0.6	10:20 6.0	17:00 1.0	22:55 7.1		Tu	10	6:40 0.6	11:40 6.0	18:55 0.8		F	10	0:49 5.6	8:15 1.0	13:20 5.9	21:00 0.3	
C	S	11	6:15 0.5	11:15 6.0	18:10 0.9	23:50 7.1	N	Th	12	1:20 6.2	8:45 0.4	13:50 5.9		S	11	1:55 5.4	9:20 0.7	14:30 6.0	22:10 0.4	
	M	12	7:15 0.3	12:15 6.0	19:25 0.5			Th	12	1:20 6.2	8:45 0.4	13:50 5.9		S	12	3:05 5.3	10:20 0.3	15:35 6.1	23:08 0.2	
	Tu	13	0:52 6.9	8:15 0.1	13:20 6.0	20:33 0.2		F	13	2:25 5.9	9:45 0.1	15:00 6.0		M	13	4:08 5.3	11:00 -0.1	16:35 6.3		
	W	14	1:55 6.7	9:15 -0.1	14:23 6.1	21:40 0.0		S	14	3:30 5.7	10:45 -0.1	16:05 6.1	●	Tu	14	0:00 -0.1	5:08 5.4	12:02 -0.2	17:25 6.5	
	Th	15	2:55 6.5	10:15 -0.3	15:33 6.2	22:45 -0.2		S	15	4:30 5.5	11:40 -0.3	17:05 6.3		W	15	0:48 -0.1	5:48 5.6	12:50 -0.1	18:10 6.5	
N	F	16	3:59 6.3	11:10 -0.5	16:33 6.0	23:45 -0.3	●	M	16	0:25 -0.1	5:25 5.5	12:30 -0.3	E	Th	16	1:30 0.1	6:25 5.6	13:30 0.1	18:45 6.6	
	S	17	4:48 6.0	12:05 -0.5	17:30 6.3			Tu	17	1:10 0.0	6:10 5.4	13:15 -0.2		F	17	2:00 0.3	6:55 5.8	14:00 0.4	19:18 6.6	
	S	18	0:43 -0.3	5:50 5.7	12:55 -0.4	18:15 6.4		W	18	2:00 0.2	6:45 5.4	13:50 -0.1		S	18	2:30 0.6	7:25 6.0	14:25 0.9	19:50 6.7	
	M	19	1:35 -0.1	6:30 5.5	13:35 -0.2	19:00 6.4	A	Th	19	2:35 0.4	7:15 5.5	14:30 0.3		S	19	2:45 1.0	8:00 6.3	14:35 1.1	20:20 6.8	
	Tu	20	2:20 0.2	7:08 5.3	14:15 0.2	19:35 6.5	E	F	20	3:05 0.6	7:45 5.6	14:55 0.7		M	20	2:50 1.0	8:35 6.5	14:40 0.8	20:59 6.8	
A	W	21	3:08 0.5	7:40 5.3	14:50 0.5	20:10 6.6		S	21	3:30 0.9	8:20 5.9	15:12 1.1		Tu	21	3:05 0.7	9:20 6.7	15:15 0.6	21:43 6.8	
	Th	22	3:40 0.8	8:10 5.3	15:20 0.9	20:45 6.6		S	22	3:50 1.1	9:00 6.2	15:15 1.1	D	W	22	3:40 0.5	10:10 6.7	16:12 0.7	22:35 6.6	
	F	23	4:10 1.0	8:45 5.5	15:45 1.2	21:25 6.7		M	23	4:15 1.1	9:45 6.3	15:58 1.0	S	Th	23	4:35 0.7	11:05 6.7	17:23 1.0	23:32 6.3	
	S	24	4:45 1.2	9:25 5.7	15:55 1.3	22:10 6.8	D	Tu	24	4:55 1.0	10:35 6.4	16:55 1.1		F	24	5:50 1.1	12:10 6.6	19:10 1.3		
	S	25	5:15 1.2	10:15 5.9	16:35 1.3	22:55 6.8		W	25	5:55 1.0	11:35 6.4	18:15 1.3		S	25	0:40 6.1	7:40 1.1	13:20 1.1	20:40 0.7	
D	M	26	6:00 1.1	11:10 6.0	17:40 1.3	23:45 6.7		Th	26	0:05 6.5	7:10 1.0	12:35 6.3		S	26	1:53 6.0	9:05 0.5	14:30 6.7	21:55 0.1	
	Tu	27	7:00 0.9	12:10 6.1	19:10 1.3		S	F	27	1:15 6.3	8:25 0.7	13:45 6.3		M	27	3:05 6.0	10:15 0.0	15:36 6.4	22:55 -0.4	
	W	28	-0:40 6.5	8:00 0.7	13:15 6.1	20:30 1.0		S	28	2:15 6.1	9:35 0.7	14:55 6.4		Tu	28	4:10 6.2	11:12 -0.5	16:38 7.2	23:50 -0.8	
	Th	29	1:40 6.4	9:05 0.4	14:20 6.1	21:40 0.6		S	29	3:25 6.0	10:40 -0.2	16:05 6.6		W	29	5:10 6.3	12:05 -0.8	17:30 7.4		
	F	30	2:45 6.2	10:10 0.1	15:25 6.2	22:45 0.3		M	30	4:30 6.1	11:35 -0.5	17:00 6.3		Th	30	0:40 -0.9	6:00 6.5	12:55 -0.8	18:20 7.4	
S	S	31	3:48 6.1	11:10 -0.2	16:25 6.4	23:45 0.1	○	Tu	31	0:25 -0.5	5:30 6.1	12:30 -0.6								

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●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

OCTOBER.					NOVEMBER.					DECEMBER.								
Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			Moon.	Day of—		Time and Height of High and Low Water.			
	W.	Mo.					W.	Mo.					W.	Mo.				
N C	F	1	1:25 -1.0	6:45 6.4	13:40 -0.8	19:05 7.3	M	1	2:25 -0.4	7:40 6.6	14:50 -0.1	19:55 6.4	W	1	2:40 0.0	8:00 6.6	15:20 0.3	20:05 5.7
	S	2	2:10 -0.6	7:20 6.4	14:20 -0.5	19:40 7.1	N Tu	2	3:05 0.1	8:15 6.5	15:30 0.3	20:30 6.0	Th	2	3:20 0.5	8:35 6.5	16:05 0.7	20:45 5.4
	S	3	2:50 -0.3	7:55 6.3	15:00 0.1	20:20 6.8	W	3	3:40 0.7	8:50 6.4	16:15 0.8	21:05 5.7	F	3	3:55 1.1	9:15 6.5	16:55 1.0	21:25 5.0
	M	4	3:30 0.2	8:30 6.3	15:40 0.4	20:55 6.5	C Th	4	4:20 1.2	9:32 6.3	17:05 1.1	21:45 5.4	C S	4	4:30 1.5	10:00 6.3	17:40 1.2	22:05 5.1
	Tu	5	4:05 0.6	9:10 6.3	16:25 0.8	21:35 6.2	F	5	5:00 1.6	10:20 6.2	18:05 1.3	22:30 5.1	S	5	5:05 1.8	10:50 6.3	18:30 1.2	22:55 5.1
	W	6	4:45 1.1	9:55 6.2	17:15 1.1	22:15 5.8	S	6	5:55 1.7	11:15 6.1	19:05 1.2	23:30 4.9	M	6	6:15 1.6	11:40 6.2	19:30 1.1	23:55 5.0
	Th	7	5:30 1.4	10:40 6.1	18:20 1.2	23:05 5.4	S	7	7:05 1.4	12:12 5.9	20:10 1.0		E A Tu	7	7:25 1.3	12:40 6.2	20:25 0.9	
	F	8	6:35 1.4	11:40 6.9	19:30 1.1		M	8	8:35 4.8	13:10 1.1	21:20 0.7		W	8	1:05 5.1	8:30 1.0	13:40 6.1	21:25 6.0
	S	9	0:05 5.1	7:40 1.3	12:45 5.8	20:40 0.9	A E Tu	9	1:50 4.8	9:15 0.7	14:25 6.1	22:00 0.8	Th	9	2:10 5.2	9:35 0.7	14:40 6.1	22:10 6.0
	S	10	1:15 4.9	8:45 0.9	13:55 5.9	21:40 0.5	W	10	2:55 5.1	10:15 0.8	15:25 6.2	22:50 0.0	F	10	3:15 5.4	10:30 0.4	15:35 6.2	23:05 6.0
	M	11	2:30 4.9	9:50 0.5	15:05 6.0	22:35 0.2	Th	11	3:55 5.4	11:05 0.1	16:15 6.3	23:38 -0.2	S	11	4:10 5.7	11:25 0.3	16:25 6.1	23:50 -0.1
	Tu	12	3:39 5.1	10:45 0.1	16:05 6.2	23:28 -0.1	F	12	4:45 5.7	11:55 0.1	17:00 6.3		S	12	5:00 6.0	12:15 0.3	17:10 6.1	
E A ●	W	13	4:30 5.3	11:35 -0.1	16:55 6.3		S	13	0:20 -0.2	5:30 5.9	12:40 0.1	17:40 6.3	M	13	0:30 0.0	5:40 6.2	13:00 0.4	17:50 6.0
	Th	14	0:10 -0.2	5:20 6.5	12:25 -0.1	17:35 6.4	S	14	0:55 0.0	6:05 6.1	13:20 0.4	18:15 6.3	S Tu	14	1:05 0.1	6:20 6.3	13:40 0.6	18:20 6.1
	F	15	0:55 -0.2	5:55 6.8	13:05 0.0	18:10 6.4	M	15	1:30 0.2	6:40 6.3	13:50 0.7	18:50 6.3	W	15	1:40 0.5	7:00 6.5	14:15 0.8	19:05 6.2
	S	16	1:29 0.1	6:15 5.8	13:39 0.4	18:45 6.5	Tu	16	1:55 0.6	7:15 6.6	14:20 1.0	19:20 6.3	Th	16	2:10 0.8	7:40 6.8	14:50 1.0	19:40 6.1
	S	17	1:56 0.4	7:00 6.2	14:05 0.7	19:15 6.5	S W	17	2:05 0.9	7:50 6.3	14:45 1.1	20:00 6.3	F	17	2:25 1.0	8:20 7.0	15:25 1.0	20:25 6.1
	M	18	2:15 0.8	7:30 6.5	14:25 1.0	19:45 6.6	Th	18	2:10 0.8	8:32 7.0	15:10 1.0	20:40 6.3	S	18	3:15 1.0	9:05 7.1	16:20 0.7	21:15 6.1
	Tu	19	2:20 0.9	8:09 6.7	14:40 1.0	20:25 6.6	F	19	2:45 0.7	9:20 7.1	16:02 1.0	21:32 6.3	S	19	3:50 1.1	9:55 7.2	17:10 0.7	22:05 6.1
	W	20	2:35 0.7	8:50 6.9	15:15 0.9	21:05 6.6	D S	20	3:30 0.8	10:10 7.1	17:15 1.0	22:30 6.1	D M	20	4:59 1.1	10:50 7.2	18:15 0.5	23:05 6.0
	Th	21	3:10 0.6	9:40 7.0	16:05 0.9	21:55 6.5	S	21	4:32 1.1	11:10 7.0	18:30 0.8	23:35 6.0	E Tu	21	6:10 0.9	11:50 7.2	19:10 0.4	
	F	22	4:00 0.7	10:35 6.9	17:20 1.1	22:55 6.2	M	22	6:25 1.2	12:15 7.0	19:40 0.2		W	22	0:15 6.0	7:25 0.5	12:50 7.1	20:20 6.0
	S	23	5:10 1.1	11:35 6.8	18:56 1.0		E Tu	23	0:45 5.9	7:55 0.6	13:25 7.0	20:50 -0.1	P Th	23	1:25 6.0	8:40 0.1	13:59 7.0	21:30 -0.4
	S	24	0:05 6.0	7:10 1.1	12:45 6.8	20:15 0.4	W	24	2:00 5.9	9:05 0.0	14:30 7.1	21:55 -0.2	F	24	2:35 6.1	9:40 -0.1	15:00 7.0	22:25 -0.7
	M	25	1:20 5.8	8:30 0.5	13:55 6.8	21:25 -0.1	P Th	25	3:10 6.2	10:10 -0.4	15:35 7.2	22:50 -1.1	S	25	3:40 6.3	10:40 -0.4	16:00 6.3	23:15 -0.7
	Tu	26	2:35 5.9	9:40 -0.1	15:05 7.0	22:25 -0.7	F	26	4:15 6.4	11:10 -0.9	16:35 7.2	23:45 -1.2	C S	26	4:40 6.5	11:45 -0.6	17:05 6.6	
E O	W	27	3:45 6.2	10:40 -0.6	16:10 7.3	23:20 -1.1	C S	27	5:10 6.6	12:05 -0.9	17:30 7.1		N M	27	0:10 -0.9	5:35 6.6	12:40 -0.6	17:55 6.0
	Th	28	4:45 6.4	11:40 -0.9	17:05 7.4		S	28	0:35 -1.2	6:00 6.2	13:00 -0.9	18:18 6.8	Tu	28	0:55 -0.3	6:20 6.7	13:30 -0.4	18:40 6.0
	F	29	0:15 -1.3	5:40 6.6	12:30 -1.0	17:55 7.4	N M	29	1:20 -0.9	6:40 6.7	13:48 -0.5	19:00 6.4	W	29	1:43 -0.4	7:05 6.6	14:23 -0.2	19:15 5.7
	S	30	1:00 -1.2	6:20 6.7	13:20 -0.9	18:40 7.2	Tu	30	2:00 -0.5	7:20 6.7	14:35 -0.2	19:35 6.0	Th	30	2:25 -0.1	7:45 6.6	15:10 0.2	19:55 5.5
	S	31	1:45 -0.9	7:02 6.7	14:05 -0.6	19:20 6.8							F	31	3:00 0.3	8:20 6.6	15:50 0.6	20:25 5.2

The tides are placed in the order of occurrence, with their times on the first line and heights on the second line of each day; a comparison of consecutive heights will indicate whether it is high or low water. The heights, in feet and tenths, are reckoned from Mean Low Water Springs, which is approximately the datum of soundings on the German Charts for this region, and which is 3.2 feet below mean sea level. To find the depth of water, add the tabular height to the soundings given on the chart, unless a minus (-) sign is before the height, in which case subtract it.

The time used is Central European, for the meridian 15° E.; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:47 is 3:47 p. m.

●, new moon; ☾, 1st quar.; ☽, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator; A, P, moon in apogee or perigee.

TABLE 2.—HEIGHT OF THE TIDE AT ANY TIME.

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For finding the height of the sea or tide at any intermediate hour between High and Low Water.

Range of Tide.	Subtract from height of High Water.						Add to height of Low Water.						Range of Tide.
	Hours before High Water.			Hours after High Water.			Hours before Low Water.			Hours after Low Water.			
	3	2	1	1	2	3	3	2	1	1	2	3	
Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.
PORTLAND, MAINE.													
6	2.5	1.3	0.2	0.4	1.4	3.0	2.8	1.3	0.4	0.3	1.1	2.8	6
7	3.0	1.5	0.3	0.4	1.5	3.4	3.3	1.5	0.4	0.4	1.3	3.3	7
8	3.5	1.7	0.4	0.4	1.7	3.8	3.8	1.8	0.4	0.5	1.6	3.7	8
9	4.1	1.9	0.5	0.5	1.9	4.2	4.3	2.0	0.5	0.5	1.9	4.2	9
10	4.6	2.1	0.5	0.5	2.0	4.5	4.8	2.3	0.5	0.6	2.2	4.7	10
11	5.1	2.3	0.6	0.6	2.2	4.9	5.3	2.5	0.6	0.7	2.5	5.2	11
12	5.7	2.5	0.7	0.6	2.4	5.3	5.8	2.7	0.6	0.7	2.8	5.7	12
13	6.2	2.7	0.8	0.6	2.5	5.6	6.3	3.0	0.7	0.8	3.1	6.2	13
BOSTON, MASSACHUSETTS.													
6	2.9	1.6	0.4	0.5	1.6	2.8	3.3	1.9	0.6	0.5	1.6	2.7	6
7	3.4	1.9	0.5	0.6	1.9	3.3	3.8	2.2	0.7	0.7	1.9	3.2	7
8	3.9	2.1	0.5	0.7	2.1	3.7	4.3	2.6	0.9	0.8	2.2	3.7	8
9	4.4	2.4	0.6	0.7	2.3	4.1	4.9	2.9	1.0	1.0	2.5	4.2	9
10	4.9	2.6	0.6	0.8	2.6	4.5	5.4	3.3	1.1	1.1	2.8	4.7	10
11	5.3	2.8	0.7	0.9	2.8	4.9	5.9	3.6	1.2	1.3	3.1	5.2	11
12	5.8	3.0	0.7	0.9	3.1	5.3	6.4	3.9	1.4	1.4	3.4	5.7	12
13	6.3	3.3	0.8	1.0	3.3	5.7	6.9	4.3	1.5	1.6	3.7	6.1	13
NEWPORT, RHODE ISLAND.													
2	1.2	0.6	0.2	0.2	0.6	1.3	1.0	0.3	0.0	0.0	0.3	0.7	2
3	1.5	0.8	0.3	0.3	1.0	1.9	1.6	0.7	0.2	0.1	0.5	1.0	3
4	1.8	0.9	0.3	0.4	1.3	2.4	2.3	1.2	0.3	0.3	0.7	1.4	4
5	2.0	1.1	0.4	0.6	1.7	3.0	2.9	1.6	0.5	0.4	0.9	1.7	5
NEW LONDON, CONNECTICUT.													
2	1.0	0.5	0.2	0.2	0.6	0.9	0.9	0.6	0.2	0.2	0.6	1.0	2
3	1.2	0.6	0.2	0.3	0.8	1.3	1.4	0.8	0.3	0.2	0.9	1.6	3
4	1.4	0.8	0.3	0.4	1.0	1.7	1.8	1.0	0.4	0.3	1.1	2.2	4
WILLETS POINT, NEW YORK.													
5	2.9	0.8	0.0	0.0	1.0	2.5	2.0	0.6	0.1	0.1	1.2	3.0	5
6	3.2	1.0	0.1	0.1	1.1	2.8	2.3	0.8	0.2	0.2	1.5	3.5	6
7	3.5	1.1	0.1	0.1	1.2	3.2	2.6	1.0	0.3	0.3	1.8	4.0	7
8	3.8	1.2	0.1	0.2	1.3	3.5	2.8	1.1	0.4	0.3	2.1	4.5	8
9	4.1	1.3	0.2	0.3	1.4	3.9	3.0	1.3	0.5	0.4	2.4	5.0	9
NEW YORK, NEW YORK.													
3	1.4	0.7	0.1	0.3	0.8	1.6	1.6	0.8	0.1	0.1	0.6	1.6	3
4	1.9	0.9	0.2	0.3	1.0	2.0	1.7	0.9	0.2	0.4	1.3	2.5	4
5	2.3	1.0	0.3	0.4	1.1	2.4	1.9	1.0	0.3	0.5	1.9	3.4	5
6	2.7	1.2	0.4	0.5	1.3	2.8	2.0	1.0	0.4	0.8	2.6	4.2	6
SANDY HOOK, NEW JERSEY.													
3	1.2	0.6	0.2	0.4	1.0	1.7	1.3	0.7	0.3	0.3	0.8	1.7	3
4	1.7	0.9	0.2	0.4	1.2	2.1	1.7	0.9	0.3	0.3	1.2	2.2	4
5	2.2	1.1	0.3	0.4	1.4	2.5	2.0	1.1	0.3	0.4	1.5	2.8	5
6	2.7	1.4	0.4	0.5	1.6	3.0	2.3	1.2	0.3	0.5	1.9	3.3	6
7	3.2	1.6	0.4	0.5	1.8	3.3	2.6	1.3	0.3	0.5	2.2	3.7	7

TABLE 2.—HEIGHT OF THE TIDE AT ANY TIME.

For finding the height of the sea or tide at any intermediate hour between High and Low Water.															
Range of Tide.	Subtract from height of High Water.						Add to height of Low Water.								Range of Tide.
	Hours before High Water.			Hours after High Water.			Hours before Low Water.			Hours after Low Water.					
	3	2	1	1	2	3	3	2	1	1	2	3			
Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	
PHILADELPHIA, PENNSYLVANIA.															
5	2.7	1.5	0.5	0.7	1.8	2.8	1.8	1.1	0.5	1.9	3.5	4.3	5	5	
6	2.9	1.5	0.5	0.7	1.9	2.8	2.0	1.2	0.6	2.1	3.8	4.9	6	6	
7	3.1	1.6	0.5	0.7	1.9	2.9	2.2	1.3	0.6	2.3	4.0	5.6	7	7	
OLD POINT COMFORT, VIRGINIA.															
2	0.9	0.4	0.1	0.1	0.5	1.2	1.1	0.5	0.0	0.2	0.6	1.3	2	2	
3	1.2	0.6	0.2	0.2	0.7	1.6	1.4	0.6	0.1	0.2	0.8	1.6	3	3	
WASHINGTON, DISTRICT OF COLUMBIA.															
2	1.2	0.5	0.1	0.1	0.5	1.1	1.0	0.5	0.1	0.1	0.8	1.5	2	2	
3	1.4	0.7	0.2	0.2	0.7	1.3	1.2	0.6	0.2	0.3	1.0	1.8	3	3	
4	1.6	0.9	0.3	0.3	0.9	1.5	1.4	0.7	0.3	0.3	1.2	2.1	4	4	
BALTIMORE, MARYLAND.															
1	0.5	0.3	0.1	0.1	0.3	0.5	0.5	0.3	0.1	0.1	0.3	0.5	1	1	
2	0.7	0.4	0.1	0.1	0.4	0.7	0.8	0.4	0.1	0.1	0.4	0.8	2	2	
WILMINGTON, NORTH CAROLINA.															
1	0.8	0.4	0.1	0.1	0.3	0.6	0.3	0.2	0.1	0.2	0.5	0.9	1	1	
2	1.2	0.6	0.2	0.2	0.6	1.0	0.6	0.3	0.1	0.5	1.0	1.7	2	2	
3	1.6	0.8	0.2	0.3	0.9	1.5	0.9	0.5	0.2	0.8	1.6	2.6	3	3	
4	2.1	1.1	0.3	0.4	1.2	2.0	1.2	0.7	0.3	1.2	2.3	3.5	4	4	
CHARLESTON, SOUTH CAROLINA.															
3	1.4	0.6	0.2	0.2	0.6	1.4	1.6	0.7	0.3	0.2	1.0	1.9	3	3	
4	1.8	0.8	0.2	0.2	0.9	1.8	2.1	1.1	0.3	0.3	1.3	2.3	4	4	
5	2.1	1.0	0.2	0.3	1.2	2.3	2.6	1.4	0.4	0.4	1.5	2.7	5	5	
6	2.4	1.1	0.3	0.4	1.5	2.7	3.1	1.8	0.5	0.5	1.7	3.2	6	6	
7	2.7	1.3	0.4	0.5	1.8	3.2	3.6	2.1	0.6	0.6	1.9	3.6	7	7	
SAVANNAH ENTRANCE, GEORGIA.															
4	2.3	1.2	0.4	0.3	1.4	2.2	2.5	1.5	0.4	0.3	1.0	2.2	4	4	
5	2.5	1.3	0.4	0.4	1.4	2.4	2.7	1.5	0.4	0.4	1.2	2.5	5	5	
6	2.9	1.4	0.4	0.4	1.5	2.9	3.0	1.6	0.5	0.4	1.5	3.0	6	6	
7	3.2	1.6	0.4	0.5	1.7	3.3	3.3	1.7	0.6	0.5	1.9	3.6	7	7	
8	3.6	1.7	0.4	0.5	1.8	3.8	3.6	1.8	0.6	0.6	2.2	4.1	8	8	
9	4.0	1.8	0.5	0.6	1.9	4.2	3.9	2.0	0.7	0.7	2.6	4.6	9	9	
FERNANDINA, FLORIDA.															
4	2.0	1.1	0.3	0.4	1.2	2.1	1.8	0.9	0.2	0.3	1.0	1.9	4	4	
5	2.4	1.3	0.4	0.4	1.4	2.6	2.2	1.2	0.3	0.4	1.3	2.4	5	5	
6	2.8	1.5	0.4	0.5	1.7	3.1	2.6	1.4	0.4	0.5	1.6	3.0	6	6	
7	3.2	1.6	0.5	0.5	2.0	3.6	3.0	1.7	0.5	0.5	1.9	3.5	7	7	
8	3.4	1.7	0.5	0.6	2.2	3.9	3.3	1.9	0.5	0.6	2.1	3.8	8	8	
KEY WEST, FLORIDA.															
1	0.4	0.1	0.1	0.1	0.2	0.5	0.5	0.2	0.1	0.1	0.1	0.4	1	1	
2	0.7	0.2	0.1	0.1	0.4	0.9	0.9	0.3	0.1	0.1	0.2	0.9	2	2	
3	1.0	0.3	0.1	0.2	0.6	1.3	1.2	0.4	0.2	0.2	0.4	1.4	3	3	

TABLE 2.—HEIGHT OF THE TIDE AT ANY TIME.

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For finding the height of the sea or tide at any intermediate hour between High and Low Water.

Subtract from height of High Water.							Add to height of Low Water.							Range of Tide.
Range of Tide.	Hours before High Water.			Hours after High Water.			Hours before Low Water.			Hours after Low Water.				
	3	2	1	1	2	3	3	2	1	1	2	3		
<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	
GALVESTON, TEXAS.														
$\frac{1}{2}$	0.4	0.2	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.4	$\frac{1}{2}$	
1	0.5	0.3	0.1	0.1	0.3	0.4	0.4	0.2	0.1	0.1	0.3	0.4	1	
$1\frac{1}{2}$	0.6	0.3	0.1	0.1	0.3	0.5	0.5	0.3	0.1	0.1	0.3	0.5	$1\frac{1}{2}$	
2	0.6	0.4	0.1	0.1	0.3	0.5	0.5	0.3	0.1	0.1	0.3	0.6	2	

EXAMPLE ILLUSTRATING THE USE OF TABLE 2.

1. Required, the height of tide at Boston, Massachusetts, at 7 a. m., on a day when the nearest predicted tides are as follows:

Low water.
Time. Height.
5h 07m. —0.6 ft.

High water.
Time. Height.
11h 22m. 11.2 ft.

The given time, 7 a. m., is about 2 hours *after* low water, and the range of tide in this case is 11.8 feet. Entering Table 2 for Boston, 2 hours after low water, for the range 11.8 feet (interpolating between 11 and 12 feet), we find 3.3 feet, which, added to —0.6 foot, the height of low water, gives 2.7 feet as the height required.

2. Required, the height of tide at New York, New York, at 6:15 a. m., on a day when the nearest predicted tides are as follows:

High water.
Time. Height.
3h 29m. 4.4 ft.

Low water.
Time. Height.
9h 51m. 0.1 ft.

The given time, 6:15 a. m., is about $2\frac{1}{2}$ hours *after* high water, and the range of tide in this case is 4.3 feet. Entering Table 2 for New York, $2\frac{1}{2}$ hours after high water, for the range 4.3 feet (interpolating between 2 and 3 hours and between 4 and 5 feet), we find 1.8 feet, which, subtracted from 4.4 feet, the height of high water, gives 2.6 feet as the height required.

3. Required, the height of the tide at Charleston, South Carolina, at 3:30 p. m., on a day when the nearest predicted tides are as follows:

Low water.
Time. Height.
11h 28m. 0.0.

High water.
Time. Height.
17h 52m. 5.0 ft.

The given time, 3:30 p. m., is about $2\frac{1}{2}$ hours *before* high water, and the range of tide is 5.0 feet. Entering Table 2 for Charleston, $2\frac{1}{2}$ hours before high water, for the range 5.0 feet (interpolating between 2 and 3 hours), we find 1.3 feet, which, subtracted from 5.0 feet, the height of high water, gives 3.7 feet as the height required.

TABLE 2 A.—HEIGHT OF THE TIDE AT ANY TIME.

For extending the application of Table 2 B to the height of the tide at any time.

Duration of rise or fall, that is, the difference between the times of the tides on either side of the time for which the height is required.

A. m. h.

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Time before or after high or low water,—that is, the difference between the time for which the height is required and the nearest high or low water.

The above table was computed for tides having periods of rise and fall each equal to one-quarter of a lunar day, or about 6^h 13^m. Table 2 A has been made to extend the application of this table to nearly all kinds of tides, except river tides.

TABLE 3.—TIDAL DIFFERENCES.

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (ARCTIC REGIONS).											
ARCTIC ARCHIPELAGO.		North.	West.				Local time.	Mean Low Water Springs.			
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Herschel Island	69 37	138 55	9 16	Madras	249	+ 9 02	+ 9 01	-0.5	-0.1	
2	Bay of Mercy	74 10	118 20	7 53	Madras	249	- 8 21	- 7 32	-0.8	-0.2	
3	Prince of Wales Strait	73 00	116 00	7 44	Madras	249	- 8 42	- 8 23	0.0	0.0	
4	Winter Bay	74 50	111 00	7 24	Madras	249	- 6 57	- 6 53	+0.8	0.0	
5	Bridport Inlet, Dealy Island	74 55	108 47	7 15	Charleston	113	+ 6 21	+ 6 33	-1.6	-0.4	
6	Northumberland Sound	76 52	97 00	6 28	Melbourne	233	+10 24	+10 15	-0.2	0.0	
7	Refuge Cove, Wellington Channel	75 31	92 10	6 09	Charleston	113	+ 4 07	+ 4 12	-0.1	-0.6	
8	Griffiths Island, Barrow Strait	74 35	95 30	6 22	Madras	249	- 8 14	- 8 15	+0.8	0.0	
9	Beechey Island, Barrow Strait	74 43	92 00	6 08	Charleston	113	+ 4 13	+ 4 20	-0.2	+0.6	
10	Port Leopold, Barrow Strait	73 50	90 25	6 02	Charleston	113	+ 3 55	+ 4 01	-0.2	+0.6	
11	Port Kennedy, Bellot Strait	72 01	94 15	6 17	Charleston	113	+ 3 27	+ 3 32	-1.6	+0.4	
12	Fury and Hecla Strait	69 25	81 30	5 26	Charleston	113	- 0 55	- 0 10	+2.0	+0.9	
HUDSON BAY.											
13	Marble Island	62 41	91 10	6 05	Brest	281	+ 0 22	+ 0 15	-6.7	-0.9	
14	Port Churchill	58 46	94 10	6 17	Brest	281	+ 3 18	+ 3 10	-3.6	-0.4	
15	York Factory	57 02	92 32	6 10	Brest	281	+ 7 27	+ 7 20	-6.7	-0.9	
16	Port Laperrière, Digges Island	62 34	78 01	5 12	Brest	281	+ 5 12	+ 5 02	-9.4	-1.2	
HUDSON STRAIT.											
17	Port Boucherville, Nottingham I.	63 12	77 28	5 10	Brest	281	+ 5 18	+ 5 09	-5.2	-0.8	
18	Stupart Bay	61 35	71 32	4 46	Liverpool	313	- 3 10	- 3 43	-1.3	+0.2	
19	Ashe Inlet	62 33	70 35	4 42	Liverpool	313	- 2 56	- 3 28	+3.3	+1.1	
20	Koksoak River, Ungava Bay	58 34	68 12	4 33	Liverpool	313	- 2 18	- 2 50	+9.6	+2.0	
21	Port Burwell, Ungava Bay	60 25	64 46	4 19	Sheerness	297	- 3 23	- 3 12	+2.2	+0.6	
CUMBERLAND SOUND.											
22	Kingua Fiord	66 36	67 20	4 29	Sheerness	297	+ 5 27	+ 5 38	+3.3	+0.9	
GREENLAND.											
West coast.											
23	Frederiksdal	60 01	44 34	2 58	Charleston	113	- 4 55	- 4 50	+3.0	+1.2	
24	Nennortalik	60 08	45 16	3 01	Charleston	113	- 2 17	- 2 14	+2.4	+1.2	
25	Jullanshaab	60 42	45 54	3 04	Charleston	113	- 2 54	- 2 51	+1.0	+1.0	
26	Arsuk	61 12	48 27	3 14	Charleston	113	- 1 34	- 1 31	+5.3	+1.6	
27	Frederickshaab	62 00	49 37	3 18	Charleston	113	- 1 37	- 1 34	+2.7	+1.2	
28	Godthaab	64 12	51 44	3 27	Savannah Entr.	117	+ 0 02	- 0 05	+4.1	+1.4	
29	Holstenborg	67 00	53 42	3 35	Savannah Entr.	117	- 0 18	- 0 25	+2.0	+1.2	
30	Whalefish Islands	68 50	53 15	3 33	Savannah Entr.	117	+ 1 27	+ 1 20	-0.2	+1.0	
31	Godthavn, Disco Island	69 16	53 28	3 34	Savannah Entr.	117	+ 2 12	+ 2 05	-0.1	-0.9	
32	Upernivik	72 50	56 05	3 44	Savannah Entr.	117	+ 4 13	+ 4 07	+0.1	+1.1	
33	North Star Bay	76 30	68 50	4 35	Savannah Entr.	117	+ 4 22	+ 4 16	-0.3	-1.1	
34	Wolstenholm Sound	76 33	68 56	4 36	Savannah Entr.	117	+ 4 24	+ 4 10	-0.2	-1.0	
35	Port Foulke	78 18	73 00	4 52	Savannah Entr.	117	+ 4 39	+ 4 16	+1.8	+1.4	
36	Rensselaer Bay	78 37	70 53	4 44	Savannah Entr.	117	+ 5 08	+ 4 54	+2.5	+1.5	
37	Thank God Harbor, Polaris Bay	81 37	61 44	4 07	Charleston	113	+ 4 27	+ 4 26	-0.4	+0.8	
GRINNELL LAND.											
38	Cape Lawrence	81 21	69 15	4 37	Savannah Entr.	117	+ 4 33	+ 4 31	+5.0	+2.0	
39	Port Conger, Discovery Harbor	81 44	64 44	4 19	Charleston	113	+ 3 47	+ 3 48	0.0	+0.8	
40	Cape Sheridan	82 25	61 30	4 06	Madras	249	+ 2 11	+ 2 05	-0.4	0.0	
JAN MAYEN.											
41	Mary Muss Bay	71 00	8 28	0 34	Halifax	57	+ 3 27	+ 3 05	-1.6	0.0	
ICELAND.											
42	Reikjavik	64 12	21 50	1 27	Sheerness	297	+ 5 02	+ 5 15	-2.2	-0.2	
GREENLAND.											
East coast.											
43	Cape Borgen	75 25	18 02	1 12	Halifax	57	+ 4 02	+ 3 42	-2.0	0.0	
44	Cape Philip Broke	74 55	17 35	1 10	Halifax	57	+ 3 16	+ 2 52	-1.5	0.0	
45	Pendulum Island	74 40	18 30	1 14	Nagasaki	181	+ 3 17	+ 3 13	-1.2	-0.3	
46	Jackson Island	73 55	20 00	1 20	Nagasaki	181	+ 3 02	+ 2 58	-0.2	-0.2	
47	Cape Hold-with-Hope (Broer Ruys)	73 28	20 30	1 22	Nagasaki	181	+ 2 47	+ 2 43	-0.5	-0.2	
48	Nubarvik	63 25	42 00	2 48	Madras	249	+10 18	+10 15	+1.6	+0.2	
49	Cape Farewell	59 45	43 56	2 56	Savannah Entr.	117	- 2 39	- 2 45	-0.2	+1.0	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East. °</i>
1	4 50	11 05	5 17a	12 08b	1.8	2.3	1.2	2.9	1.6	0.9	.....	1.8	1.2	1.3	42.0
2	12 20	7 00	12 51a	8 11a	1.5	2.0	1.0	2.5	1.5	0.8	.....	1.7	1.0	1.2	90.0
3	12 00	6 10	12 25a	7 07a	2.3	3.0	1.5	3.5	1.8	1.0	.....	2.1	1.5	1.6	87.0
4	1 20	7 40	1 41b	8 30a	2.9	3.8	1.9	4.3	2.0	1.1	.....	2.3	1.9	1.9	120.0
5	1 38	8 00	1 50b	8 49a	3.1	4.0	2.0	4.5	2.1	1.1	.....	2.4	2.0	2.1	132.0 E.
6	12 20	6 10	12 51a	7 22a	1.4	1.8	0.9	2.4	1.4	0.8	.....	1.6	0.9	1.1	158.0 W.
7	11 50	5 40	12 08a	6 22a	4.4	5.7	2.8	6.1	2.5	1.4	.....	2.9	2.8	2.8	139.0 W.
8	0 05	6 20	0 26b	7 10a	2.9	3.8	1.9	4.3	2.0	1.1	.....	2.3	1.9	1.9	148.0 W.
9	11 56	5 48	12 14a	6 29a	4.3	5.6	2.8	6.0	2.5	1.4	13 51	2.8	2.8	2.8	West.
10	11 38	5 29	11 50a	4 53a	4.3	5.5	2.9	5.8	2.6	1.0	13 00	2.7	2.8	2.5	137.0
11	11 10	5 00	11 24a	4 18a	3.1	4.0	2.1	4.4	2.2	0.8	.....	2.3	2.0	1.9	127.0
12	6 50	0 40	7 00a	0 10a	6.2	8.0	4.2	8.0	3.1	1.1	.....	3.3	4.0	3.6	130.0
13	4 00	10 15	3 59a	10 18a	8.9	12.0	5.1	8.3	0.4	0.2	.....	0.4	6.0	4.2	East.
14	6 56	0 45	6 55a	0 47b	11.5	15.5	6.6	10.9	0.4	0.2	.....	0.4	7.8	4.5	7.5 W.
15	11 05	4 55	11 04a	4 58b	8.9	12.0	5.1	8.3	0.4	0.2	.....	0.4	6.0	4.2	5.0 E.
16	8 52	2 39	8 50a	2 43b	6.6	9.0	3.8	6.2	0.3	0.2	6 30	0.4	4.5	3.1	3.0 E.
17	8 58	2 46	8 52a	2 47b	10.2	13.5	6.1	9.8	0.3	0.9	3 42	1.0	6.8	5.0	43.0 W.
18	7 50	1 37	7 45a	1 40b	19.2	25.1	12.3	13.7	0.8	1.4	3 44	1.6	12.6	9.5	West.
19	8 04	1 52	8 01a	1 53b	28.5	31.2	14.4	22.3	0.6	1.4	3 12	1.5	15.6	11.3	47.5
20	8 42	2 30	8 39a	2 31b	28.9	38.5	17.6	28.6	0.6	1.5	.....	1.7	19.2	14.4	51.0
21	9 04	2 52	9 05a	2 46b	15.1	19.7	9.8	14.6	1.4	0.2	9 16	1.4	9.8	7.1	42.0
22	5 29	11 42	5 23a	11 49a	15.9	21.0	9.8	16.1	1.8	1.5	2 42	2.3	10.5	8.0	48.0
23	2 55	9 10	2 59a	8 50b	6.9	9.4	3.8	7.4	2.1	0.5	.....	2.1	4.7	3.3	60.0
24	5 33	11 46	5 38a	11 25b	6.3	8.6	3.4	6.7	2.0	0.5	6 26	2.0	4.3	3.0	44.5
25	4 56	11 09	5 01a	10 46b	5.1	7.0	2.8	5.5	1.8	0.4	.....	1.8	3.5	2.5	45.0
26	6 15	0 03	6 19a	0 15a	8.8	12.0	4.8	9.3	2.3	0.6	.....	2.4	6.0	4.3	47.0
27	6 12	0 00	6 16a	0 20a	6.6	9.0	3.6	7.1	2.0	0.5	.....	2.0	4.5	3.2	48.0
28	6 40	0 27	6 41a	0 13a	9.5	12.5	6.0	9.9	2.0	0.4	7 07	2.0	6.2	4.5	51.5
29	6 20	0 07	6 22a	0 09a	7.6	10.0	4.8	7.9	1.8	0.3	.....	1.8	5.0	3.6	56.5
30	8 05	1 52	8 07a	1 34a	5.7	7.5	3.6	6.0	1.6	0.3	.....	1.6	3.8	2.6	57.0
31	8 50	2 37	8 52a	2 19a	5.8	7.6	3.7	6.0	1.6	0.3	.....	1.6	3.8	2.6	57.5
32	10 50	4 38	10 56a	4 31a	5.8	8.0	3.0	6.0	0.7	0.6	.....	0.8	4.0	2.8	61.0
33	10 58	4 46	11 05a	4 37a	5.4	7.5	2.9	5.6	0.6	0.6	.....	0.9	3.8	2.6	70.0
34	11 00	4 40	11 07a	4 32a	5.5	7.6	2.9	5.6	0.6	0.6	.....	0.9	3.8	2.6	70.0
35	11 14	4 45	11 20a	4 38a	7.1	9.9	3.7	7.4	0.7	0.7	.....	1.0	5.0	3.4	80.0
36	11 43	5 23	11 49a	5 16a	7.8	10.8	4.1	8.0	0.8	0.7	.....	1.0	5.4	3.9	75.0
37	12 14	5 58	12 22a	5 49a	3.9	5.4	2.0	3.8	0.5	0.5	.....	0.7	2.7	2.0	65.0
38	11 09	5 01	11 14a	4 55a	9.9	13.8	5.1	10.1	0.9	0.8	.....	1.2	6.9	4.8	75.0
39	11 34	5 20	11 42a	5 11a	4.3	5.9	2.2	4.1	0.6	0.5	14 24	0.8	3.0	2.1	67.0
40	10 35	4 20	10 46a	4 06a	1.9	2.6	1.0	1.8	0.4	0.3	.....	0.5	1.3	0.9	66.0
41	11 21	5 07	11 35b	5 07b	2.8	3.7	1.9	2.9	0.1	0.6	5 00	0.6	1.8	1.6	26.5
42	5 10	11 25	5 13a	11 24a	11.5	14.5	8.4	12.6	0.4	1.2	.....	1.3	7.2	6.3	33.5
43	11 55	5 43	12 01a	5 41a	2.4	3.1	1.8	3.0	0.2	0.6	.....	0.6	1.6	1.5	35.0
44	11 10	4 58	11 15a	4 56a	2.9	3.7	2.1	3.5	0.2	0.6	.....	0.6	1.8	1.8	35.0
45	11 05	4 53	11 08a	4 52a	5.3	6.7	3.9	6.2	0.3	0.8	.....	0.8	3.4	3.2	35.0
46	10 50	4 38	10 53a	4 37a	6.2	7.9	4.5	7.2	0.3	0.9	.....	0.9	4.0	3.7	36.0
47	10 35	4 23	10 38a	4 22a	5.9	7.5	4.3	6.9	0.3	0.9	.....	0.9	3.8	3.6	36.0
48	6 20	0 08	6 26a	0 19a	3.6	4.9	2.0	3.9	1.5	0.4	.....	1.5	2.4	1.7	46.5
49	4 00	10 13	4 05a	9 50b	5.5	7.5	3.0	5.9	1.8	0.5	.....	1.9	3.8	2.6	44.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (EAST COAST).												
LABRADOR.		North.	West.				Local time.		Mean Low Watersprings.			
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.		
1	Eclipse Harbor	59 50	64 10	4 17	Charleston	113	+0 13	+0 16	-0.8	+0.6	0.71	
2	Nachvak Bay	59 05	63 20	4 13	Charleston	113	-0 47	-0 44	-0.6	+0.7	0.73	
3	Nain	56 34	61 44	4 07	Sandy Hook	89	-0 33	-0 37	+0.9	+0.8	1.05	
4	Hopedale Harbor	55 25	60 20	4 01	Sandy Hook	89	-2 03	-2 07	+1.2	+0.8	1.19	
5	Indian Harbor	54 30	57 30	3 50	Sandy Hook	89	-1 23	-1 27	+1.4	+0.8	1.15	
6	Independent Harbor	53 51	56 55	3 48	Sandy Hook	89	-0 53	-0 57	+0.4	+0.7	0.94	
7	Indian Tickle	53 34	56 00	3 44	Sandy Hook	89	-1 06	-1 10	+0.6	+0.7	0.98	
8	Seal Islands	53 14	55 42	3 43	Sandy Hook	89	-1 03	-1 07	+0.2	+0.7	0.92	
9	Venison Tickle	52 58	55 46	3 43	Sandy Hook	89	-0 56	-1 00	+0.2	+0.7	0.92	
10	Occasional Harbor	52 40	55 47	3 43	Sandy Hook	89	-0 55	-0 59	-0.4	+0.6	0.91	
11	Fishing Ship Harbor	52 36	55 45	3 43	Sandy Hook	89	-0 49	-0 53	+0.2	+0.7	0.92	
12	Spear Harbor	52 26	55 38	3 43	St. Johns	53	+0 23	+0 21	+0.9	+0.1	1.04	
13	St. Lewis Sound	52 19	55 44	3 43	St. Johns	53	-0 19	-0 21	+0.2	0.0	1.04	
14	Chateau Bay, Strait of Belle Isle	52 00	55 53	3 44	Halifax	57	-0 35	-1 12	-2.0	0.0	0.76	
15	Red Bay, Strait of Belle Isle	51 45	56 26	3 46	Halifax	57	+0 57	+0 10	-2.0	0.0	0.76	
16	Forteau Bay, Strait of Belle Isle	51 27	56 23	3 46	Halifax	57	+1 57	+1 09	-1.2	0.0	0.75	
NEWFOUNDLAND.												
East coast.							Time meridian, 60° W.					
17	Pistolet Bay	51 32	55 45	3 43	St. Johns	53	+0 23	+0 21	-0.2	0.0	0.99	
18	Hare Bay	51 17	55 55	3 44	Sandy Hook	89	+0 39	+0 35	+1.6	+0.8	1.13	
19	Canada Bay	50 45	56 08	3 45	Sandy Hook	89	-1 02	-1 16	0.0	+0.6	0.92	
20	Cat Head, White Bay	50 08	56 41	3 47	St. Johns	53	-0 11	-0 13	+1.0	+0.2	1.19	
21	Fortune Harbor, Notre Dame Bay	49 32	55 15	3 41	St. Johns	53	-0 04	-0 06	+0.6	0.0	1.23	
22	Fogo Harbor	49 44	54 16	3 37	St. Johns	53	-0 07	-0 09	+0.9	+0.1	1.27	
23	Barrow Harbor, Bonavista Bay	48 40	53 36	3 34	St. Johns	53	-1 12	-1 14	+0.8	+0.2	1.51	
24	Hearts Content, Trinity Bay	47 53	53 23	3 34	St. Johns	53	+0 08	+0 06	+0.6	0.0	1.13	
25	Grace Harbor, Conception Bay	47 42	53 13	3 33	St. Johns	53	-0 01	-0 03	+0.9	+0.1	1.19	
26	ST. JOHNS	47 34	52 42	3 31	St. Johns	53	0 00	0 00	0.0	0.0	1.06	
South coast.												
27	Cape Race	46 39	53 07	3 32	Sandy Hook	89	-1 12	-1 16	+1.0	+0.8	1.04	
28	Trepassey Harbor	46 43	53 33	3 34	Sandy Hook	89	-1 10	-1 14	+1.2	+0.8	1.06	
29	St. Mary Harbor, St. Mary Bay	46 55	53 35	3 34	Sandy Hook	89	-0 30	-0 34	+2.0	+1.0	1.21	
30	Cape St. Mary, Placentia Bay	46 50	54 12	3 37	Sandy Hook	89	+0 23	+0 19	+1.7	+0.9	1.15	
31	Woody Island, Placentia Bay	47 47	54 13	3 37	Sandy Hook	89	+0 03	-0 01	+1.6	+0.8	1.13	
32	Burin Harbor, Placentia Bay	47 02	55 11	3 41	Sandy Hook	89	+0 43	+0 39	+1.0	+0.8	1.04	
33	Great Laun	46 56	55 33	3 42	Sandy Hook	89	+0 14	+0 10	+1.6	+0.8	1.13	
34	Miquelon or St. Pierre Island	46 47	56 09	3 45	Sandy Hook	89	+0 35	+0 31	+1.2	+0.8	1.06	
35	Brunet Islands	47 16	55 55	3 44	Sandy Hook	89	+1 04	+1 00	+1.0	+0.8	1.04	
36	Grand Bank Harbor, Fortune Bay	47 06	55 44	3 43	Sandy Hook	89	+0 48	+0 44	+0.8	+0.8	1.10	
37	Grand le Pierre H., Fortune Bay	47 09	54 46	3 39	Sandy Hook	89	+1 05	+1 01	+1.4	+0.8	1.11	
38	Breton Harbor, Fortune Bay	47 30	55 47	3 43	Sandy Hook	89	+0 52	+0 48	+1.7	+0.9	1.15	
39	Hermitage Cove	47 32	55 55	3 44	Sandy Hook	89	+0 46	+0 42	+1.6	+0.8	1.13	
40	Rencontre Bay	47 37	56 37	3 46	Sandy Hook	89	+0 58	+0 54	+1.0	+0.8	1.02	
41	La Hune Bay	47 33	56 50	3 47	Sandy Hook	89	+0 44	+0 40	+1.0	+0.8	1.04	
42	Burgeo Islands	47 36	57 37	3 50	Sandy Hook	89	+0 39	+0 35	+0.8	+0.8	1.04	
43	La Poile Bay	47 40	58 23	3 54	Sandy Hook	89	+1 11	+1 07	+0.7	+0.7	0.99	
44	Port Basque	47 35	59 07	3 56	Sandy Hook	89	+1 15	+1 11	+0.3	+0.7	0.99	
West coast.												
Gulf of St. Lawrence.												
45	Codroy Road	47 53	59 24	3 58	Halifax	57	+0 59	+0 29	-0.9	+0.1	0.77	
46	St. George Harbor	48 28	58 21	3 53	Halifax	57	+1 09	+0 37	-1.2	0.0	0.70	
47	Frenchman Cove, Bay of Islands	49 00	58 09	3 53	Halifax	57	+1 22	+0 46	-0.8	0.0	0.82	
48	Bonne Bay	49 34	57 57	3 52	Halifax	57	+1 33	+0 57	-0.6	0.0	0.84	
49	Cowhead Harbor	49 55	57 47	3 51	Halifax	57	+1 42	+1 03	-0.4	0.0	0.89	
50	Hawke Harbor	50 37	57 12	3 49	Halifax	57	+1 55	+1 12	-0.5	+0.1	0.87	
51	Port au Choix	50 44	57 21	3 49	Halifax	57	+1 50	+1 08	+1.0	+0.2	1.17	
52	Good Bay	50 48	57 12	3 49	Halifax	57	+1 56	+1 13	+0.8	+0.3	1.13	
53	Castors Harbor, St. John Bay	50 54	56 57	3 48	Halifax	57	+2 00	+1 15	-1.2	0.0	0.75	
54	St. Genevieve Bay	51 09	56 48	3 47	Halifax	57	+2 08	+1 21	-0.2	0.0	0.94	
QUEBEC.												
Gulf of St. Lawrence.												
55	Belles Amour Bay	51 27	57 26	3 50	Halifax	57	+0 47	-0 01	-1.6	0.0	0.66	
56	Mistanoque Harbor	51 16	58 12	3 53	Halifax	57	+2 20	+1 25	-0.5	+0.1	0.87	
57	Antrobis Island	50 33	59 17	3 57	Halifax	57	+2 24	+1 21	-1.2	0.0	0.73	
58	Wapitagan Harbor	50 12	60 01	4 00	Halifax	57	+2 28	+0 26	-1.2	0.0	0.73	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
h. m.	h. m.	h. m.	h. m.	feet.	feet.	feet.	feet.	feet.	feet.	h. m.	feet.	feet.	feet.	West. °	
1	8 00	1 48	8 06a	1 21b	3.7	5.0	2.0	4.0	1.5	0.4	.....	1.5	2.5	1.7	47.5
2	7 00	0 48	7 06a	0 21b	3.8	5.2	2.1	4.1	1.5	0.4	.....	1.6	2.6	1.8	45.0
3	7 00	0 48	6 57a	1 07b	4.9	6.5	3.0	5.4	1.3	0.3	.....	1.4	3.2	2.3	41.0
4	5 30	11 43	5 27a	12 01a	5.2	6.9	3.2	5.7	1.4	0.3	.....	1.4	3.4	2.6	39.0
5	6 10	12 23	6 07a	12 40a	5.3	7.0	3.2	5.8	1.5	0.3	.....	1.4	3.5	2.7	38.5
6	6 40	0 28	6 36a	0 48b	4.4	5.8	2.7	4.9	1.3	0.3	.....	1.8	2.9	2.2	38.0
7	6 27	0 15	6 24a	0 33b	4.6	6.0	2.8	5.1	1.3	0.3	.....	1.3	3.0	2.3	37.0
8	6 30	0 18	6 26a	0 38b	4.2	5.5	2.6	4.7	1.3	0.3	.....	1.3	2.8	2.1	37.0
9	6 37	0 25	6 33a	0 45b	4.2	5.5	2.6	4.7	1.3	0.3	.....	1.3	2.8	2.1	36.5
10	6 38	0 26	6 34a	0 47b	3.8	5.0	2.3	4.3	1.2	0.3	.....	1.2	2.5	1.9	36.0
11	6 44	0 32	6 40a	0 52b	4.2	5.5	2.6	4.7	1.3	0.3	.....	1.3	2.8	2.1	36.0
12	7 12	1 00	7 08a	1 21b	3.4	4.5	2.0	3.8	1.1	0.2	.....	1.1	2.2	1.7	36.0
13	6 30	0 18	6 26a	0 42b	2.7	3.5	1.6	3.1	1.0	0.2	.....	1.0	1.8	1.4	35.5
14	7 30	1 05	6 57a	1 09b	2.4	3.1	1.6	2.9	0.2	1.2	.....	1.2	1.6	1.7	35.0
15	9 00	2 25	8 27a	2 29b	2.4	3.1	1.6	2.9	0.2	1.2	.....	1.2	1.6	1.7	34.0
16	10 00	3 24	9 30a	3 28b	3.1	4.0	2.0	3.7	0.2	1.4	.....	1.4	2.0	2.2	34.0
17	7 29	1 17	7 24a	1 43b	2.5	3.3	1.5	2.9	1.0	0.2	.....	1.0	1.6	1.3	34.0
18	8 28	2 16	8 25a	2 33b	5.3	7.0	3.2	5.8	1.4	0.3	.....	1.4	3.5	2.7	33.5
19	6 36	0 24	6 32a	0 44b	4.0	5.2	2.4	4.4	1.2	0.3	.....	1.2	2.6	2.0	32.5
20	6 50	0 38	6 46a	1 00b	3.5	4.6	2.1	3.9	1.1	0.2	.....	1.2	2.3	1.8	31.5
21	7 04	0 52	7 00a	1 14b	3.2	4.0	1.9	3.6	1.1	0.2	.....	1.1	2.0	1.6	31.0
22	7 05	0 53	7 01a	1 14b	3.4	4.5	2.1	3.8	1.1	0.2	.....	1.1	2.2	1.7	32.0
23	6 03	12 16	5 59a	12 37a	3.3	4.4	2.0	3.7	1.1	0.2	.....	1.1	2.2	1.7	31.0
24	7 23	1 11	7 19a	1 34b	3.1	4.1	1.9	3.4	1.1	0.2	.....	1.1	2.0	1.6	30.0
25	7 15	1 03	7 11a	1 24b	3.4	4.5	2.1	3.8	1.1	0.2	.....	1.1	2.2	1.7	29.5
26	7 12	1 01	7 07a	1 26b	2.6	3.3	1.5	2.9	1.0	0.2	6 20	1.0	1.6	1.3	29.5
27	6 50	0 39	6 47a	0 57b	4.9	6.5	3.0	5.4	1.3	0.3	.....	1.4	3.2	2.5	28.5
28	6 50	0 38	6 47a	0 56b	5.0	6.6	3.1	5.5	1.4	0.3	.....	1.4	3.3	2.5	28.5
29	7 30	1 18	7 27a	1 34b	5.7	7.5	3.5	6.3	1.5	0.3	.....	1.4	3.8	2.9	28.5
30	8 20	2 08	8 17a	2 25b	5.4	7.2	3.3	5.9	1.4	0.3	.....	1.4	3.6	2.7	28.5
31	8 00	1 48	7 57a	2 05b	5.3	7.0	3.2	5.8	1.4	0.3	.....	1.4	3.5	2.7	29.0
32	8 35	2 23	8 32a	2 42b	4.9	6.5	3.0	5.4	1.3	0.3	.....	1.4	3.2	2.5	28.0
33	8 05	1 53	8 02a	2 11b	5.3	7.0	3.2	5.8	1.4	0.3	.....	1.4	3.5	2.7	27.5
34	8 23	2 11	8 20a	2 29b	5.0	6.6	3.1	5.5	1.4	0.3	.....	1.4	3.3	2.5	27.0
35	8 53	2 41	8 50a	3 00b	4.9	6.5	3.0	5.4	1.3	0.3	.....	1.4	3.2	2.5	28.0
36	8 38	2 26	8 35a	2 44b	4.7	6.2	2.9	5.2	1.3	0.3	.....	1.3	3.1	2.4	28.0
37	9 00	2 48	8 57a	3 06b	5.2	6.9	3.2	5.7	1.4	0.3	.....	1.4	3.4	2.6	28.5
38	8 42	2 30	8 39a	2 47b	5.4	7.1	3.3	5.9	1.4	0.3	.....	1.4	3.6	2.7	28.5
39	8 35	2 23	8 32a	2 40b	5.3	7.0	3.2	5.8	1.4	0.3	.....	1.4	3.5	2.7	28.5
40	8 45	2 33	8 41a	2 53b	4.8	6.3	2.9	5.3	1.3	0.3	.....	1.4	3.2	2.4	28.0
41	8 30	2 18	8 27a	2 37b	4.9	6.4	3.0	5.4	1.3	0.3	.....	1.4	3.2	2.5	28.0
42	8 22	2 10	8 19a	2 28b	4.7	6.2	2.9	5.2	1.3	0.3	.....	1.3	3.1	2.4	27.5
43	8 50	2 38	8 47a	2 56b	4.6	6.0	2.8	5.1	1.3	0.3	.....	1.3	3.0	2.3	27.0
44	8 52	2 40	8 48a	3 00b	4.2	5.5	2.6	4.7	1.3	0.3	.....	1.3	2.8	2.1	26.5
45	8 50	2 32	8 47a	2 55b	3.3	4.3	2.1	3.9	0.2	1.4	.....	1.4	2.2	2.2	27.0
46	9 05	2 45	8 57a	3 07b	3.0	3.9	1.9	3.5	0.2	1.3	.....	1.3	2.0	2.0	28.0
47	9 20	2 58	9 04a	3 01b	3.5	4.5	2.3	4.1	0.2	1.4	.....	1.4	2.2	2.3	29.5
48	9 30	3 06	9 04a	3 09b	3.6	4.6	2.3	4.1	0.2	1.5	.....	1.5	2.3	2.4	30.5
49	9 40	3 13	9 14a	3 16b	3.8	4.9	2.5	4.4	0.2	1.5	.....	1.5	2.4	2.5	31.0
50	9 55	3 24	9 28a	3 28b	3.7	4.8	2.4	4.3	0.3	1.5	.....	1.5	2.4	2.4	32.0
51	9 50	3 20	9 28a	3 23b	5.0	6.5	3.2	5.7	0.3	1.7	.....	1.7	3.2	3.2	32.0
52	9 56	3 25	9 33a	3 29b	4.9	6.4	3.2	5.6	0.3	1.7	.....	1.7	3.2	3.2	32.0
53	10 00	3 27	9 31a	3 31b	3.2	4.1	2.1	3.8	0.3	1.4	.....	1.4	2.0	2.2	32.5
54	10 10	3 35	9 45a	3 38b	4.0	5.2	2.6	4.6	0.3	1.5	.....	1.5	2.6	2.6	33.0
55	8 45	2 10	8 15a	2 14b	2.8	3.6	1.8	3.3	0.6	1.3	.....	1.3	1.8	1.9	33.5
56	10 15	3 33	9 48a	3 37b	3.7	4.8	2.4	4.3	0.7	1.0	.....	1.5	2.4	2.4	33.0
57	10 15	3 25	9 45a	3 29b	3.1	4.0	2.0	3.7	1.0	1.0	.....	1.3	2.0	2.1	31.0
58	10 15	2 26	9 45a	2 30b	3.1	4.0	2.0	3.7	1.0	0.8	.....	1.3	2.0	2.1	30.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of ranges
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
QUEBEC—continued.											
Gulf of St. Lawrence—Continued.											
		North.	West.				Time meridian, 60° W.		Mean Low Water Springs.		
		°	°	h. m.			h. m.	h. m.	feet.	feet.	
1	Kegashka Bay.....	50 11	61 16	4 06	Halifax	57	+ 2 48	+ 1 08	- 1.2	0.0	0.3
2	Little Natashquan Harbor.....	50 12	61 50	4 07	Halifax	57	+ 3 05	+ 1 47	- 1.2	0.0	0.3
3	Appetetat Bay.....	50 19	63 00	4 12	Halifax	57	+ 3 20	+ 2 03	- 1.2	0.0	0.3
4	Mingan Harbor.....	50 17	64 02	4 16	Halifax	57	+ 5 55	+ 4 38	- 0.5	+0.1	0.5
Anticosti Island.											
5	West Point Light.....	49 52	64 32	4 18	Halifax	57	+ 6 41	+ 5 18	- 0.5	+0.1	0.5
6	Bear Bay.....	49 31	62 26	4 10	Halifax	57	+ 4 58	+ 3 35	- 1.2	0.0	0.3
7	East Point.....	49 08	61 39	4 07	Halifax	57	+ 3 25	+ 2 02	- 1.6	0.0	0.6
8	Southwest Point Light.....	49 24	63 36	4 14	Halifax	57	+ 6 04	+ 5 29	+ 0.7	+0.1	1.15
St. Lawrence River.											
9	Cape Rosier Light.....	48 52	64 12	4 17	New York	85	+ 6 07	+ 4 55	+ 0.8	+0.4	1.11
10	Cape Magdalen Light.....	49 16	65 19	4 21	New York	85	+ 6 19	+ 5 09	+ 1.6	+0.4	1.27
11	Martin River Light.....	49 13	66 09	4 25	New York	85	+ 6 27	+ 5 30	+ 2.4	+0.4	1.45
12	Caroussel Light.....	50 06	66 23	4 26	New York	85	+ 6 34	+ 5 29	+ 3.2	+0.4	1.6
13	Cawee Island.....	49 50	67 07	4 28	New York	85	+ 6 38	+ 5 36	+ 4.0	+0.6	1.80
14	Cape Chatte Light.....	49 06	66 45	4 27	New York	85	+ 6 46	+ 6 20	+ 7.5	+1.1	2.45
Time meridian, 75° W.											
15	Point de Monts Light.....	49 20	67 22	4 29	New York	85	+ 5 46	+ 5 22	+ 6.6	+1.0	2.2
16	Matane Light.....	48 52	67 33	4 30	New York	85	+ 5 49	+ 5 25	+ 6.0	+0.6	2.2
17	Little Metis.....	48 41	68 01	4 32	New York	85	+ 5 51	+ 5 27	+ 7.5	+1.1	2.45
18	Manicouagan Shoal Light.....	49 06	68 12	4 33	New York	85	+ 5 54	+ 5 06	+ 6.9	+0.7	2.41
19	Father Point Light.....	48 31	68 28	4 34	New York	85	+ 5 54	+ 5 30	+ 8.4	+1.2	2.64
20	Bic Island.....	48 24	68 53	4 36	New York	85	+ 5 59	+ 5 38	+ 8.8	+0.8	2.90
21	Tadoussac, Saguenay River.....	48 09	69 43	4 39	New York	85	+ 6 26	+ 6 06	+11.6	+1.0	3.40
22	Chicoutimi, Saguenay River.....	48 34	71 05	4 44	New York	85	+ 6 43	+ 7 42	+ 6.9	+0.7	2.4
23	Brandy Pots Light.....	47 52	69 41	4 39	New York	85	+ 6 40	+ 6 19	+11.6	+1.0	3.40
24	Murray Bay.....	47 39	70 08	4 41	New York	85	+ 7 22	+ 7 10	+11.2	+1.4	3.21
25	Orignaux Point Light.....	47 30	70 02	4 40	New York	85	+ 7 29	+ 7 18	+12.1	+1.1	3.50
26	Coudres Island.....	47 21	70 26	4 42	New York	85	+ 7 58	+ 7 50	+11.6	+1.6	3.30
27	L'Islet.....	47 08	70 22	4 41	New York	85	+ 8 59	+ 8 55	+12.6	+1.0	3.61
28	Beaujeu Channel.....	47 05	70 29	4 42	New York	85	+ 9 19	+ 9 16	+12.5	+1.5	3.6
29	Grosse Isle.....	47 02	70 40	4 43	New York	85	+ 9 17	+ 9 41	+13.5	+1.1	3.6
30	Berthier.....	46 56	70 43	4 43	New York	85	+ 9 34	+10 00	+11.6	+1.6	3.3
31	St. Laurent Light, Orleans Island.....	46 52	71 03	4 44	New York	85	+ 9 58	+10 36	+12.2	+1.0	3.32
32	Quebec Dry Dock.....	46 49	71 12	4 45	New York	85	+10 14	+11 00	+ 9.6	+0.8	2.9
33	St. Nicholas.....	46 42	71 24	4 46	New York	85	+10 49	+11 35	+11.2	+1.4	3.21
34	St. Augustin.....	46 45	71 28	4 46	New York	85	+11 00	+11 52	+10.6	+1.4	3.11
35	Ste. Croix.....	46 37	71 45	4 47	New York	85	+11 45	+13 00	+ 9.4	+1.2	2.8
36	Point Platon.....	46 40	71 51	4 47	New York	85	+11 55	+13 11	+ 8.8	+1.2	2.71
37	Grondine Light.....	46 36	72 04	4 48	New York	85	-12 16	-10 31	+ 3.7	+0.5	1.73
38	Cape Roche Light.....	46 33	72 10	4 49	New York	85	-11 52	-10 00	+ 1.2	+0.4	1.21
39	Batiscan Light.....	46 31	72 15	4 49	New York	85	-10 55	- 8 59	- 1.4	+0.2	0.64
40	Champlain Light.....	46 26	72 21	4 49	New York	85	-10 24	- 8 17	- 2.1	+0.1	0.51
41	Three Rivers.....	46 20	72 33	4 50	New York	85	- 9 51	- 7 35	- 3.2	0.0	0.25
Gulf of St. Lawrence.											
Time meridian, 60° W.											
42	O'Hara Point Light, Gaspé Bay.....	48 50	64 32	4 18	Halifax	57	+ 7 05	+ 5 48	- 0.2	0.0	0.6
43	Cape Despair Light.....	48 26	64 18	4 17	Halifax	57	+ 6 24	+ 5 17	- 0.8	0.0	0.2
44	Macquereau Point, Chaleur Bay.....	48 12	64 46	4 19	Halifax	57	+ 6 51	+ 5 52	- 0.6	+0.2	0.4
45	Carlisle, Chaleur Bay.....	48 01	65 20	4 21	Halifax	57	+ 7 18	+ 6 28	- 0.5	+0.1	0.5
46	Carleton Point, Chaleur Bay.....	48 05	66 07	4 24	Halifax	57	+ 7 30	+ 6 47	+ 2.6	+0.2	1.54
NEW BRUNSWICK.											
Gulf of St. Lawrence.											
47	Campbellton, Chaleur Bay.....	48 01	66 40	4 27	Halifax	57	+ 8 33	+ 8 01	+ 4.4	+0.4	1.2
48	Dalhousie, Chaleur Bay.....	48 04	66 21	4 25	Halifax	57	+ 7 41	+ 6 57	+ 3.4	+0.4	1.2
49	Bathurst, Chaleur Bay.....	47 39	65 37	4 22	Halifax	57	+ 7 29	+ 7 17	+ 0.9	+0.3	1.15
50	Carquette, Chaleur Bay.....	47 50	64 54	4 20	Halifax	57	+ 7 12	+ 7 00	0.0	+0.2	0.6
51	Miscou Harbor, Chaleur Bay.....	47 55	64 29	4 18	Halifax	57	+ 6 55	+ 6 43	- 1.2	0.0	0.3
52	North Tracadie Gully Light.....	47 30	64 52	4 19	Halifax	57	+ 8 11	+ 8 14	- 2.6	-0.2	0.6
53	Lower Neguac, Miramichi Bay.....	47 16	65 03	4 20	Halifax	57	+ 9 48	+ 9 54	- 2.0	-0.2	0.6
54	Richibucto Head Light.....	46 40	64 42	4 19	Halifax	57	- 1 39	- 1 31	- 2.2	-0.2	0.3
55	Shediac Island Light.....	46 15	64 32	4 18	Halifax	57	0 00	+ 0 08	- 2.2	-0.2	0.51
56	Jourimain Islet Light.....	46 10	63 48	4 15	Halifax	57	+ 1 32	+ 1 40	- 1.0	0.0	0.3
57	Cape Tormentine.....	46 07	63 46	4 15	Halifax	57	+ 2 37	+ 2 16	- 1.1	-0.1	0.7

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	h. m.	h. m.	h. m.	h. m.	feet.	feet.	feet.	feet.	feet.	feet.	h. m.	feet.	feet.	feet.	West. °
1	10 30	3 03	10 00a	3 07b	3.1	4.0	2.0	3.7	1.2	0.5	.....	1.3	2.0	1.7	29.0
2	10 45	3 40	10 15a	3 44b	3.1	4.0	2.0	3.7	1.2	0.5	.....	1.3	2.0	1.7	29.0
3	10 55	3 51	10 25a	3 55b	3.1	4.0	2.0	3.7	1.2	0.5	.....	1.3	2.0	1.7	28.5
4	1 01	6 22	0 34b	6 26b	3.7	4.8	2.4	4.3	1.4	0.5	.....	1.5	2.4	2.0	27.5
5	1 45	7 00	1 18b	7 04b	3.7	4.8	2.4	4.3	1.1	0.5	.....	1.5	2.4	2.0	27.0
6	0 10	5 25	12 05a	5 29b	3.1	4.0	2.0	3.7	1.1	0.5	.....	1.3	2.0	1.7	27.5
7	11 05	3 55	10 35a	3 59b	2.8	3.6	1.8	3.3	1.1	0.5	.....	1.3	1.8	1.6	27.5
8	1 12	7 15	0 46b	7 18b	4.9	6.0	3.7	5.4	1.2	0.6	.....	1.5	3.0	2.8	27.0
9	1 25	6 40	1 21b	7 03b	4.9	5.5	4.1	5.3	1.6	0.8	.....	1.8	2.8	2.4	25.5
10	1 33	6 50	1 27b	7 15b	5.6	6.4	4.7	6.0	1.8	0.8	.....	2.0	3.2	2.8	25.5
11	1 37	5 57	1 32b	7 20b	6.4	7.3	5.4	6.8	1.9	0.9	.....	2.1	3.6	3.2	25.0
12	1 43	7 05	1 38b	7 27b	7.1	8.1	6.0	7.6	2.0	0.9	.....	2.2	4.0	3.5	26.0
13	1 45	7 10	1 40b	7 31b	7.9	9.0	6.6	8.4	2.0	1.0	.....	2.3	4.5	3.9	25.0
14	1 55	7 56	1 55b	8 13b	10.8	13.0	8.3	12.0	2.0	1.2	.....	2.5	6.5	6.0	24.5
15	1 53	7 56	1 49b	8 13b	9.9	12.0	7.7	11.2	2.6	1.1	.....	2.6	6.0	5.5	24.5
16	1 55	7 58	1 51b	8 16b	9.7	11.0	8.1	10.3	2.6	1.1	.....	2.6	5.5	4.8	23.5
17	1 55	7 58	1 51b	8 15b	10.8	13.0	8.3	12.2	2.7	1.1	.....	2.7	6.5	6.0	23.0
18	1 57	7 56	1 53b	7 53b	10.6	12.0	8.9	11.2	2.8	1.1	.....	2.7	6.0	5.2	23.5
19	1 56	7 59	1 52b	8 15b	11.6	14.0	9.0	13.0	2.8	1.1	.....	2.7	7.0	6.4	22.5
20	1 59	8 05	1 55b	8 21b	12.3	14.0	10.3	12.9	3.0	1.2	.....	2.9	7.0	6.1	22.0
21	2 23	8 30	2 20b	8 45b	15.0	17.0	12.6	15.7	3.3	1.3	.....	3.2	8.5	7.4	21.5
22	2 34	10 00	2 30b	10 17b	10.6	12.0	8.9	11.2	2.8	1.1	.....	2.7	6.0	5.1	20.0
23	2 37	8 43	2 34b	8 58b	15.0	17.0	12.6	15.7	3.3	1.3	.....	3.2	8.5	7.4	21.0
24	3 17	9 32	3 14b	9 47b	14.1	17.0	10.9	15.8	3.3	1.3	.....	3.2	8.5	7.7	20.5
25	3 25	9 41	3 22b	9 56b	15.4	17.5	12.9	16.1	3.3	1.4	.....	3.3	8.8	7.6	20.5
26	3 51	10 10	3 48b	10 25b	14.5	17.5	11.2	16.2	3.3	1.4	.....	3.3	8.8	8.0	20.0
27	4 54	11 17	4 51b	11 31b	15.9	18.0	13.3	16.6	3.4	1.4	.....	3.3	9.0	7.9	19.5
28	5 12	11 36	5 09b	11 50b	15.4	18.5	11.9	17.1	3.4	1.4	.....	3.3	9.2	8.4	19.5
29	5 09	12 00	5 06b	12 14b	16.8	19.0	14.1	17.5	3.5	1.4	.....	3.4	9.5	8.3	18.5
30	5 26	12 19	5 23b	0 08a	14.5	17.5	11.2	16.2	3.3	1.4	.....	3.4	8.8	8.0	18.5
31	5 49	0 29	5 46b	0 44a	15.5	17.6	13.0	16.2	3.4	1.4	.....	3.3	8.8	7.7	18.5
32	6 04	0 52	6 02b	1 06a	13.1	14.9	10.9	13.6	3.0	1.3	17 43	3.0	7.4	6.4	17.5
33	6 38	1 26	6 35b	1 42a	14.1	17.0	10.9	15.7	3.2	1.3	.....	2.8	8.5	7.7	17.5
34	6 49	1 43	6 45b	2 00a	13.7	16.5	10.6	15.3	3.1	1.2	.....	2.8	8.2	7.4	17.5
35	7 53	2 50	7 29b	3 08a	12.5	15.0	9.6	14.0	3.0	1.2	.....	2.6	7.5	6.8	17.0
36	7 43	3 01	7 39b	3 21a	12.1	14.5	9.3	13.6	3.0	1.1	.....	2.4	7.2	6.6	17.0
37	8 21	4 08	8 16b	4 29a	7.6	8.6	6.4	8.1	2.4	1.0	.....	2.3	4.3	3.7	16.5
38	8 44	4 38	8 38b	5 03a	5.3	6.0	4.4	5.7	2.0	0.8	.....	1.9	3.0	2.6	16.5
39	9 41	5 39	9 35b	6 06a	2.8	3.2	2.3	3.1	1.4	0.6	.....	1.4	1.6	1.4	16.5
40	10 12	6 21	10 03b	7 01a	2.2	2.5	1.8	2.5	1.3	0.5	.....	1.2	1.2	1.1	16.5
41	10 44	7 02	10 32b	7 55a	1.1	1.3	0.9	1.3	0.9	0.4	.....	0.9	0.6	0.5	16.0
42	2 09	7 30	1 40b	7 34b	4.1	5.0	3.1	4.7	1.4	0.3	.....	1.4	2.5	2.2	25.5
43	1 29	7 00	1 03b	7 03b	3.5	4.5	2.3	4.1	1.4	0.3	.....	1.4	2.2	2.0	25.0
44	1 54	7 33	1 26b	7 37b	3.6	4.7	2.3	4.2	1.5	0.3	.....	1.5	2.4	2.0	24.0
45	2 19	8 07	1 52b	8 11b	3.7	4.8	2.4	4.3	1.5	0.3	.....	1.5	2.4	2.1	24.0
46	2 28	8 23	2 05b	8 26b	6.6	8.0	4.9	7.3	1.7	0.3	.....	1.7	4.0	3.4	23.5
47	3 28	9 34	3 09b	9 37b	8.3	10.0	6.1	9.1	2.0	0.3	.....	2.0	5.0	4.3	23.0
48	2 38	8 32	2 18b	8 35b	7.4	9.0	5.5	8.2	1.9	0.3	.....	1.9	4.5	3.8	23.0
49	2 29	8 55	2 06b	8 58b	4.9	6.3	3.2	5.6	1.7	0.3	.....	1.7	3.2	2.6	23.0
50	2 14	8 40	1 49b	8 43b	4.2	5.4	2.7	4.8	1.6	0.3	.....	1.6	2.7	2.2	23.0
51	1 59	8 25	1 29b	8 29b	3.1	4.0	2.0	3.7	1.3	0.3	.....	1.3	2.0	1.7	24.0
52	3 14	9 55	2 37b	10 00b	1.9	2.4	1.2	2.2	1.1	0.4	.....	1.1	1.2	1.1	24.0
53	4 50	11 34	4 13b	11 39b	1.8	2.3	1.2	2.2	0.9	0.5	.....	1.0	1.2	1.1	23.5
54	5 50	0 10	5 17b	0 14a	2.2	2.8	1.4	2.7	0.9	0.6	.....	1.1	1.4	1.3	23.0
55	7 30	1 50	6 57b	1 54a	2.2	2.8	1.4	2.7	0.9	0.9	.....	1.1	1.4	1.4	22.5
56	9 05	3 25	8 36b	3 29a	3.2	4.2	2.1	3.8	0.6	1.0	.....	1.4	2.1	2.0	23.0
57	10 09	4 01	9 41b	4 05a	3.8	4.0	2.5	4.0	0.6	1.4	.....	1.4	2.0	2.1	23.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
PRINCE EDWARD ISLAND.											
Gulf of St. Lawrence—Continued.											
		North.	West.				Time meridian, 60° W.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	North Point Light.....	47 04	63 59	4 16	Halifax.....	57	+ 9 13	+ 9 16	-2.6	-0.2	
2	Alberton.....	46 48	64 03	4 16	Halifax.....	57	+10 36	+10 39	-2.6	-0.2	
3	Richmond Harbor.....	46 34	63 45	4 15	Halifax.....	57	+10 43	+10 46	-3.2	-0.2	
4	Grand Rustico Light.....	46 28	63 17	4 13	Halifax.....	57	+10 38	+10 41	-3.4	-0.2	
5	St. Peters Harbor Light.....	46 26	62 49	4 11	Halifax.....	57	+10 59	+11 02	-3.6	-0.4	
6	East Point Light.....	46 27	61 58	4 08	Halifax.....	57	+ 0 37	+ 0 28	-3.5	-0.3	
7	Souris.....	46 20	62 17	4 09	Halifax.....	57	+ 0 57	+ 0 18	-1.9	-0.1	
8	Georgetown Harbor Light.....	46 10	62 31	4 10	Halifax.....	57	+ 1 22	+ 0 50	-2.1	0.0	
9	Cape Bear Light.....	46 01	62 27	4 10	Halifax.....	57	+ 1 17	+ 0 33	-1.0	0.0	
10	Charlottetown.....	46 12	63 07	4 12	Halifax.....	57	+ 2 46	+ 2 21	+0.9	+0.3	
11	Hillsboro River Head.....	46 23	62 49	4 11	Halifax.....	57	+ 3 45	+ 2 47	+3.2	-0.6	
12	Crapaud Light.....	46 13	63 29	4 14	Halifax.....	57	+ 2 06	+ 2 14	+0.9	-0.3	
13	Summerside, Bedeque Bay.....	46 24	63 47	4 15	Halifax.....	57	+ 3 04	+ 2 48	+0.2	1.6	
14	Minimegash Light.....	46 53	64 14	4 17	Halifax.....	57	+ 9 54	+10 02	-2.6	-0.2	
ISLANDS.											
Gulf of St. Lawrence.											
15	St. Paul Island, Northeast Light.....	47 14	60 08	4 01	Halifax.....	57	+ 0 44	+ 0 13	-2.3	-0.1	
16	Magdalen Islands, Grindstone I'd.....	47 23	61 57	4 08	Halifax.....	57	+ 1 06	+ 0 33	-2.6	-0.2	
NOVA SCOTIA.											
Gulf of St. Lawrence.											
17	Pugwash Harbor Light.....	45 52	63 40	4 15	Halifax.....	57	+ 2 50	+ 2 18	0.0	+0.2	
18	Tatamagouche Harbor.....	45 45	63 10	4 13	Halifax.....	57	+ 2 18	+ 1 46	+0.6	+0.2	
19	Pictou Harbor Light.....	45 41	62 40	4 11	Halifax.....	57	+ 2 14	+ 1 33	-1.2	0.0	
20	Cape George Light.....	45 53	61 55	4 08	Halifax.....	57	+ 1 29	+ 0 57	-2.2	-0.2	
21	Pomquet Harbor.....	45 39	61 55	4 08	Halifax.....	57	+ 1 45	+ 1 18	-2.0	0.0	
CAPE BRETON ISLAND.											
Gulf of St. Lawrence.											
22	Gut of Canso, North Entrance.....	45 42	61 32	4 06	Halifax.....	57	+ 1 44	+ 1 16	-2.0	0.0	
23	Port Hood Light.....	46 00	61 32	4 06	Halifax.....	57	+ 1 12	+ 0 42	-1.6	0.0	
24	Cheticam Island Light.....	46 38	61 00	4 04	Halifax.....	57	+ 1 06	+ 0 36	-2.3	0.0	
25	Cape North.....	47 02	60 23	4 02	Halifax.....	57	+ 0 49	+ 0 19	-2.0	0.0	
Outer coast.											
26	Neal Harbor.....	46 49	60 20	4 01	Halifax.....	57	+ 0 25	+ 0 25	-0.7	-0.1	
27	St. Anne Harbor Light.....	46 17	60 32	4 02	Halifax.....	57	+ 0 39	+ 0 39	+0.7	+0.1	
28	Sydney Harbor Light.....	46 13	60 13	4 01	Halifax.....	57	+ 0 20	+ 0 20	-0.2	0.0	
29	Menadou Bay.....	45 59	59 48	3 59	Halifax.....	57	+ 0 10	+ 0 10	+0.3	+0.1	
30	Louisburg Harbor Light.....	45 55	59 57	4 00	Halifax.....	57	- 0 03	- 0 03	-0.2	0.0	
31	St. Peter Bay Light.....	45 41	60 50	4 03	Halifax.....	57	- 0 30	- 0 30	+0.7	+0.1	
32	Arichat Harbor Light.....	45 30	61 03	4 04	Halifax.....	57	+ 0 11	+ 0 11	-0.2	0.0	
NOVA SCOTIA.											
Outer coast.											
33	Gut of Canso, South Entrance.....	45 31	61 15	4 05	Halifax.....	57	+ 0 22	+ 0 22	+0.4	0.0	
34	Guysboro Light.....	45 23	61 29	4 06	Halifax.....	57	+ 0 23	+ 0 23	+1.0	+0.2	
35	Canso Harbor Light.....	45 21	60 59	4 04	Halifax.....	57	- 0 01	- 0 01	+1.1	+0.1	
36	Whitehaven.....	45 12	61 08	4 05	Halifax.....	57	+ 0 02	+ 0 02	+1.2	+0.2	
37	Country Harbor, Island Harbor.....	45 10	61 41	4 07	Halifax.....	57	- 0 16	- 0 16	+1.1	+0.1	
38	Liscomb Harbor Light.....	44 59	61 58	4 08	Halifax.....	57	+ 0 05	+ 0 05	+1.1	+0.1	
39	Sheet Harbor.....	44 53	62 31	4 10	Halifax.....	57	+ 0 13	+ 0 13	+1.2	0.0	
40	Ship Harbor.....	44 46	62 48	4 11	Halifax.....	57	+ 0 02	+ 0 02	+1.1	+0.1	
41	Jedore Harbor.....	44 42	63 01	4 12	Halifax.....	57	- 0 06	- 0 06	+1.0	+0.2	
42	HALIFAX.....	44 40	63 35	4 14	Halifax.....	57	0 00	0 00	0.0	0.0	
43	Sable Island, north side.....	43 57	59 55	4 00	Halifax.....	57	- 0 33	- 0 33	-1.1	-0.1	
44	Sable Island, south side.....	43 55	60 00	4 00	Halifax.....	57	- 1 33	- 1 33	-1.0	-0.2	
45	Blind Bay.....	44 28	63 50	4 15	Halifax.....	57	- 0 03	- 0 03	+2.1	+0.3	
46	St. Margaret Bay.....	44 35	63 58	4 16	Halifax.....	57	0 00	0 00	+1.8	+0.2	
47	Mahone Bay.....	44 28	64 17	4 17	Halifax.....	57	- 0 01	- 0 01	+2.1	+0.3	
48	Lunenburg.....	44 23	64 18	4 17	Halifax.....	57	+ 0 08	+ 0 08	+1.6	+0.3	
49	Port Medway.....	44 08	64 35	4 18	Halifax.....	57	+ 0 01	+ 0 01	+2.4	+0.4	
50	Liverpool Bay.....	44 02	64 42	4 19	Halifax.....	57	+ 0 06	+ 0 06	+2.5	+0.3	
51	Port Mouton.....	43 56	64 49	4 19	Halifax.....	57	+ 0 20	+ 0 20	+2.1	+0.3	
52	Port Ebert.....	43 48	64 56	4 20	Halifax.....	57	+ 0 18	+ 0 18	+2.4	+0.2	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West. °</i>
1	4 19	11 00	3 42b	11 05b	1.9	2.4	1.2	2.2	0.9	0.4	.....	1.1	1.2	1.2	24.0
2	5 42	12 23	5 05b	0 03a	1.9	2.4	1.2	2.2	0.8	0.4	.....	1.1	1.2	1.2	24.0
3	5 50	0 06	5 08b	0 12a	1.4	1.8	0.9	1.8	0.6	0.5	.....	0.9	0.9	1.0	23.5
4	5 47	0 03	5 03b	0 09a	1.2	1.6	0.8	1.5	0.6	0.6	.....	0.8	0.8	0.9	24.0
5	6 10	0 26	5 17b	0 32a	1.0	1.3	0.6	1.3	0.6	0.6	.....	0.8	0.8	0.8	24.0
6	8 16	2 20	7 28b	2 26a	1.1	1.4	0.7	1.4	0.2	0.8	.....	0.8	0.7	1.0	24.5
7	8 35	2 09	8 03b	2 13a	2.5	3.2	1.6	3.0	0.2	1.2	.....	1.2	1.6	1.7	24.0
8	8 59	2 40	8 25b	2 45a	2.3	3.0	1.5	2.8	0.3	1.2	.....	1.2	1.5	1.6	24.0
9	8 54	2 23	8 25b	2 27a	3.2	4.2	2.1	3.8	0.4	1.4	.....	1.4	2.1	2.2	23.5
10	10 21	4 09	9 58b	4 12a	4.9	6.4	3.2	5.5	0.8	1.4	.....	1.7	3.2	3.0	23.0
11	11 21	4 36	11 02b	4 39a	6.9	9.0	4.5	7.7	1.4	1.6	.....	2.0	4.5	4.0	24.0
12	9 39	4 00	9 16b	4 03a	4.9	6.4	3.2	5.6	1.4	1.4	.....	1.7	3.2	2.9	23.0
13	10 36	4 33	10 12b	1 36a	4.3	5.6	2.8	4.9	1.4	0.5	.....	1.6	2.8	2.3	23.5
14	5 00	11 45	4 23b	11 50b	1.9	2.4	1.2	2.2	1.0	0.5	.....	1.1	1.2	1.1	24.0
15	8 30	2 12	7 55b	2 16a	2.1	2.7	1.4	2.6	0.1	1.1	15 04	1.1	1.4	1.5	26.0
16	8 45	2 25	8 08b	2 30a	1.8	2.3	1.2	2.2	0.1	1.0	.....	1.0	1.2	1.3	25.0
17	10 22	4 03	9 57b	4 06a	4.2	5.4	2.7	4.8	0.5	1.5	.....	1.6	2.7	2.8	22.5
18	9 52	3 33	9 29b	3 36a	4.6	6.0	3.0	5.2	0.3	1.5	.....	1.6	3.0	3.0	22.5
19	9 50	3 22	9 22b	3 26a	3.0	3.9	2.0	3.5	0.3	1.3	.....	1.3	2.0	2.0	22.5
20	9 08	2 49	8 35b	2 53a	2.2	2.8	1.4	2.7	0.2	1.1	.....	1.1	1.4	1.6	23.5
21	9 25	3 09	8 52b	3 13a	2.4	3.1	1.6	2.9	0.2	1.2	.....	1.2	1.6	1.7	23.5
22	9 26	3 10	8 53b	3 14a	2.4	3.1	1.6	2.9	0.2	1.2	.....	1.2	1.6	1.7	24.0
23	8 53	2 36	8 21b	2 40a	2.7	3.5	1.8	3.2	0.2	1.3	.....	1.3	1.8	1.9	24.0
24	8 50	2 32	8 16b	2 37a	2.1	2.7	1.4	2.6	0.2	1.1	.....	1.1	1.4	1.5	25.0
25	8 35	2 17	8 02b	2 21a	2.4	3.1	1.6	2.9	0.2	1.2	.....	1.2	1.6	1.7	25.5
26	8 11	2 24	7 46a	2 29b	3.7	4.5	2.8	4.1	0.5	1.0	.....	1.1	2.2	2.8	25.5
27	8 25	2 37	8 14a	2 43b	4.9	6.0	3.7	5.3	0.5	1.0	.....	1.1	3.0	2.8	25.0
28	8 06	2 19	7 58a	2 24b	4.1	5.0	3.1	4.4	0.5	0.9	.....	1.0	2.5	2.3	25.0
29	8 00	2 11	7 46a	2 18b	4.5	5.5	3.4	4.8	0.5	0.9	.....	1.0	2.8	2.5	25.0
30	7 45	1 57	7 31a	2 04b	4.1	5.0	3.1	4.4	0.5	0.9	.....	1.0	2.5	2.3	25.0
31	7 15	1 27	7 02a	1 33b	4.9	6.0	3.7	5.3	0.5	1.0	.....	1.1	3.0	2.8	24.5
32	7 55	2 07	7 41a	2 14b	4.1	5.0	3.1	4.4	0.5	0.9	.....	1.0	2.5	2.3	24.0
33	8 06	2 17	7 54a	2 23b	4.6	5.6	3.4	5.0	0.5	0.9	.....	1.0	2.8	2.6	24.0
34	8 06	2 17	7 57a	2 23b	5.2	6.4	3.9	5.6	0.5	1.0	.....	1.1	3.2	3.0	23.5
35	7 43	1 55	7 31a	2 01b	5.3	6.5	4.0	5.7	0.5	1.0	.....	1.1	3.2	3.0	23.5
36	7 45	1 57	7 33a	2 03b	5.4	6.6	4.1	5.8	0.5	1.0	.....	1.1	3.3	3.0	23.5
37	7 25	1 37	7 13a	1 43b	5.3	6.5	4.0	5.7	0.5	1.0	.....	1.1	3.2	3.0	23.0
38	7 45	1 57	7 33a	2 03b	5.3	6.5	4.0	5.7	0.5	1.0	.....	1.1	3.2	3.0	22.5
39	7 50	2 03	7 38a	2 09b	5.4	6.5	4.0	5.8	0.5	1.0	.....	1.1	3.2	3.0	22.0
40	7 39	1 51	7 27a	1 57b	5.3	6.5	4.0	5.7	0.5	1.0	.....	1.1	3.2	3.0	22.0
41	7 30	1 42	7 18a	1 48b	5.2	6.4	4.0	5.7	0.5	1.0	.....	1.1	3.2	3.0	21.5
42	7 33	1 46	7 21a	1 52b	4.3	5.2	3.2	4.7	0.5	1.0	3 20	1.0	2.6	2.5	21.5
43	7 15	1 27	6 59a	1 35b	3.3	4.0	2.5	3.6	0.4	0.8	.....	0.9	2.0	1.9	22.0
44	6 15	0 27	5 59a	0 35b	3.4	4.1	2.6	3.7	0.4	0.8	.....	0.9	2.0	1.9	22.0
45	7 30	1 42	7 19a	1 48b	6.1	7.5	4.6	6.5	0.6	1.1	.....	1.2	3.8	3.4	21.0
46	7 32	1 44	7 20a	1 50b	5.8	7.1	4.4	6.2	0.6	1.1	.....	1.2	3.6	3.2	21.0
47	7 30	1 42	7 19a	1 48b	6.1	7.5	4.6	6.5	0.6	1.1	.....	1.2	3.8	3.4	20.5
48	7 39	1 51	7 27a	1 57b	5.7	7.0	4.3	6.1	0.6	1.1	.....	1.2	3.5	3.2	20.0
49	7 31	1 43	7 21a	1 48b	6.4	7.9	4.8	6.8	0.6	1.1	.....	1.2	4.0	3.6	20.0
50	7 35	1 47	7 24a	1 52b	6.5	8.0	4.9	6.9	0.6	1.1	.....	1.2	4.0	3.6	20.0
51	7 49	2 01	7 38a	2 07b	6.1	7.5	4.6	6.5	0.6	1.1	.....	1.2	3.8	3.4	19.5
52	7 46	1 58	7 36a	2 04b	6.4	7.8	4.8	6.8	0.6	1.1	.....	1.2	3.9	3.5	19.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Range of tides.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (EAST COAST)—Continued.												
NOVA SCOTIA—continued.												
Outer coast—Continued.												
		North.	West.				Time Meridian, 60° W.		Mean Low Water Springs.			
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.		
1	Rugged Island Harbor	43 42	65 06	4 20	Halifax	57	+0 10	+0 10	+2.1	+0.3	1.8	
2	Shelburne	43 45	65 19	4 21	Halifax	57	+0 22	+0 22	+1.6	+0.2	1.4	
3	Negro Harbor	43 34	65 25	4 22	Halifax	57	+0 23	+0 23	+1.6	+0.2	1.4	
4	Barrington	43 33	65 34	4 22	Halifax	57	+1 22	+1 22	+5.2	+0.6	2.6	
5	Cape Sable Light	43 23	65 37	4 22	Halifax	57	+1 17	+1 17	+5.3	+0.5	2.1	
Bay of Fundy.												
6	Seal Island Light	43 24	66 01	4 24	St. John, N. B.	61	-1 33	-1 36	-10.4	-0.6	0.8	
7	Pubnico	43 38	65 47	4 23	St. John, N. B.	61	-1 58	-1 56	-11.1	-0.7	0.8	
8	Argyle	43 42	65 50	4 23	St. John, N. B.	61	-1 56	-1 49	-10.4	-0.6	0.8	
9	Yarmouth	43 50	66 08	4 25	St. John, N. B.	61	-1 06	-1 16	-7.4	-0.4	0.5	
10	Grand Passage, St. Mary Bay	44 15	66 20	4 25	St. John, N. B.	61	-0 30	-0 28	-2.8	-0.2	0.2	
11	Petite Passage, St. Mary Bay	44 23	66 12	4 25	St. John, N. B.	61	-0 33	-0 27	-1.7	-0.1	0.2	
12	Weymouth, St. Mary Bay	44 27	66 01	4 24	St. John, N. B.	61	-0 25	-0 21	+0.2	0.0	1.0	
13	Digby Pier	44 41	65 46	4 23	St. John, N. B.	61	-0 17	-0 16	+3.5	-0.3	1.1	
14	Annapolis	44 45	65 30	4 22	St. John, N. B.	61	+0 07	+0 11	+4.6	+0.4	1.2	
15	Port George	45 00	65 09	4 21	St. John, N. B.	61	-0 06	+0 12	+7.6	+0.6	1.2	
16	Ile Haute Light	45 15	65 01	4 20	St. John, N. B.	61	-0 03	+0 26	+8.6	+0.6	1.2	
17	Black Rock Light	45 10	64 46	4 19	St. John, N. B.	61	+0 04	+0 38	+11.4	+0.8	1.2	
18	Spencer Anchorage	45 20	64 42	4 19	St. John, N. B.	61	+0 18	+0 58	+14.2	+1.0	1.5	
19	Parrsboro, Minas Basin	45 23	64 19	4 17	St. John, N. B.	61	+0 54	+1 31	+18.0	+1.2	1.8	
20	Horton Bluff, Minas Basin	45 07	64 13	4 17	St. John, N. B.	61	+1 06	+1 50	+22.6	+1.6	2.0	
21	Noel Bay, Minas Basin	45 19	63 45	4 15	St. John, N. B.	61	+1 15	+1 59	+25.0	+1.6	2.0	
22	Spicer Cove	45 25	64 54	4 20	St. John, N. B.	61	+0 13	+0 57	+12.2	+1.0	1.4	
NEW BRUNSWICK—continued.												
Bay of Fundy.												
23	Sackville	45 53	64 22	4 17	St. John, N. B.	61	+0 31	+1 40	+20.0	+1.4	1.8	
24	Grindstone Island Light	45 43	64 27	4 18	St. John, N. B.	61	+0 22	+1 21	+16.1	+1.1	1.5	
25	Folly Point	45 52	64 34	4 18	St. John, N. B.	61	+0 25	+1 20	+19.8	+1.4	1.8	
26	Monckton Railway	46 06	64 47	4 19	St. John, N. B.	61	+0 47	+1 51	+21.8	+1.4	1.8	
27	Quaco	45 21	65 32	4 22	St. John, N. B.	61	+0 13	+0 57	+5.8	+0.4	1.2	
28	St. JOHN Harbor	45 14	66 04	4 24	St. John, N. B.	61	0 00	0 00	0.0	0.0	1.0	
29	Lepreau Bay	45 07	66 31	4 26	St. John, N. B.	61	0 00	+0 04	+0.6	0.0	1.0	
30	Fish Head, Grand Manan Island	44 47	66 44	4 27	St. John, N. B.	61	-0 02	+0 26	+1.3	-0.1	0.4	
31	Seal Cove, Grand Manan Island	44 38	66 50	4 27	St. John, N. B.	61	-0 21	+0 01	-3.6	-0.2	0.4	
32	Machias Seal Island Light	44 30	67 06	4 28	St. John, N. B.	61	-0 07	+0 07	-5.5	-0.3	0.3	
NEW BRUNSWICK AND MAINE.												
Passamaquoddy Bay.												
33	Lubec, Me.	44 52	66 59	4 28	St. John, N. B.	61	-1 00	-0 52	-4.8	-1.4	0.8	
34	Deep Cove, Cobequid Bay, Me.	44 54	67 01	4 28	St. John, N. B.	61	-0 44	-0 32	-3.0	-1.4	0.8	
35	Federal Harbor, Cobequid B., Me.	44 52	67 04	4 28	St. John, N. B.	61	-0 40	-0 28	-3.4	-1.4	0.8	
36	Welchpool, Campobello I., N. B.	44 53	66 57	4 28	St. John, N. B.	61	-0 57	-0 51	-2.0	-1.4	0.7	
37	Eastport, Me.	44 54	66 59	4 28	St. John, N. B.	61	-0 55	-0 50	-4.2	-1.4	0.7	
38	Gleason Cove, Me.	44 58	67 03	4 28	St. John, N. B.	61	-0 50	-0 42	-4.0	-1.4	0.7	
39	L'Etang, N. B.	45 04	66 50	4 27	St. John, N. B.	61	-0 58	-0 54	-2.0	-1.4	0.7	
St. Croix River.												
40	St. Andrew, N. B.	45 04	67 08	4 28	St. John, N. B.	61	-0 46	-0 37	-0.7	-1.5	1.0	
41	Robbinston, Me.	45 05	67 06	4 28	St. John, N. B.	61	-0 46	-0 36	-2.6	-1.4	0.9	
42	Dochet Island Light, Me.	45 08	67 08	4 29	St. John, N. B.	61	-0 39	-0 29	-2.4	-1.4	0.9	
43	Dufferin (The Ledge), N. B.	45 10	67 12	4 29	St. John, N. B.	61	-0 34	-0 23	-2.4	-1.4	0.9	
44	Calais, Me.	45 11	67 17	4 29	St. John, N. B.	61	-0 27	-0 14	-2.0	-1.4	0.7	
MAINE—continued.												
45	West Quoddy Head	44 49	66 57	4 28	St. John, N. B.	61	-1 09	-1 03	-7.2	-1.4	0.7	
46	Cutler, Little River	44 39	67 13	4 29	St. John, N. B.	61	-1 20	-1 16	-8.3	-1.5	0.7	
47	Starboard Island, Machias Bay	44 36	67 23	4 30	St. John, N. B.	61	-1 18	-1 13	-9.9	-1.5	0.7	
48	Machiasport, Machias Bay	44 42	67 24	4 30	St. John, N. B.	61	-1 00	-0 54	-8.8	-1.4	0.7	
49	Little Kennebec Bay	44 37	67 26	4 30	St. John, N. B.	61	-1 16	-1 11	-9.6	-1.4	0.7	
50	Rogue I Harbor, Englishman Bay ..	44 34	67 31	4 30	Boston	69	-0 53	-0 47	+2.7	0.0	1.2	
51	Moose Peak Light	44 28	67 32	4 30	Boston	69	-1 09	-1 08	+2.4	0.0	1.2	
52	Jonesport	44 32	67 36	4 30	Boston	69	-0 44	-0 43	+2.1	0.0	1.2	
53	Nash Island Light	44 28	67 45	4 31	Boston	69	-1 01	-1 01	+1.4	0.0	1.2	
54	Addison Point, Pleasant River	44 37	67 45	4 31	Boston	69	-0 27	-0 27	+1.7	0.0	1.2	
55	Trafton Island, Narraguagus Bay ..	44 29	67 50	4 31	Boston	69	-0 58	-1 08	+1.6	0.0	1.2	
56	Millbridge, Narraguagus Bay	44 32	67 53	4 32	Boston	69	-0 46	-0 46	+1.7	0.0	1.2	
57	Pigeon Hill Bay	44 27	67 52	4 31	Boston	69	-0 57	-0 57	+1.6	0.0	1.2	
58	Dyer Bay	44 27	67 55	4 32	Boston	69	-0 52	-0 52	+1.3	0.0	1.1	
59	Indian Harbor, Gouldsboro Bay	44 24	67 58	4 32	Boston	69	-0 56	-0 56	+0.9	0.0	1.0	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>	
1	7 38	1 50	7 27a	1 56b	6.1	7.5	4.6	6.5	0.6	1.1	.....	1.2	8.8	3.4	19.0
2	7 49	2 01	7 37a	2 07b	5.7	7.0	4.3	6.1	0.6	1.1	.....	1.2	8.5	3.2	19.0
3	7 49	2 01	7 37a	2 07b	5.7	7.0	4.3	6.1	0.6	1.1	.....	1.2	8.5	3.2	19.0
4	8 48	3 00	8 41a	3 04b	9.0	11.0	6.7	9.5	0.7	1.3	.....	1.4	5.5	4.9	19.0
5	8 42	2 55	8 33a	3 00b	9.1	11.0	6.8	9.6	0.6	1.1	.....	1.3	5.5	3.8	19.0
6	9 35	3 23	9 30a	3 29b	11.2	12.8	9.5	11.0	1.0	0.9	.....	1.3	6.4	5.7	18.0
7	9 11	3 04	9 06a	3 10b	10.5	12.0	8.9	10.3	1.0	0.8	.....	1.2	6.0	5.1	19.0
8	9 13	3 11	9 08a	3 17b	11.2	12.8	9.5	11.0	1.0	0.9	.....	1.3	6.4	5.7	19.0
9	10 01	3 42	9 56a	3 47b	14.0	16.0	11.8	13.8	1.1	1.0	.....	1.4	8.0	7.1	19.0
10	10 37	4 30	10 33a	4 34b	18.2	20.8	15.4	17.9	1.3	1.1	.....	1.6	10.4	9.2	19.0
11	10 34	4 31	10 30a	4 35b	19.3	22.0	16.3	19.0	1.3	1.1	.....	1.7	11.0	9.7	19.0
12	10 43	4 38	10 39a	4 42b	21.1	24.1	17.9	20.7	1.4	1.2	.....	1.8	12.0	10.6	19.0
13	10 52	4 44	10 48a	4 40b	24.1	27.5	20.4	23.6	1.5	1.3	.....	1.9	13.8	12.1	20.0
14	11 17	5 12	11 14a	5 16b	25.1	28.7	21.2	24.7	1.5	1.3	.....	1.9	14.4	12.6	20.0
15	11 05	5 14	11 01b	5 14b	27.8	32.0	23.3	26.6	1.5	1.3	.....	1.9	16.0	14.2	21.0
16	11 09	5 29	11 06a	5 32b	28.9	33.0	24.4	28.4	1.6	1.4	.....	2.0	16.5	14.5	21.0
17	11 17	5 42	11 14a	5 45b	31.5	36.0	26.6	31.0	1.7	1.5	.....	2.2	18.0	15.7	21.0
18	11 31	6 02	11 26a	6 03b	34.0	39.0	28.4	35.0	1.9	1.6	.....	2.3	19.5	17.4	21.0
19	12 09	6 37	11 41a	6 34b	37.7	43.0	31.9	37.1	1.9	1.6	.....	2.3	21.5	18.9	22.0
20	12 21	6 56	12 18a	6 59b	42.0	48.0	35.5	41.4	2.0	1.7	.....	2.5	24.0	21.1	22.0
21	0 07	7 07	0 04b	7 10b	44.2	50.5	37.4	43.6	2.0	1.7	.....	2.5	25.2	22.2	22.0
22	11 25	6 00	11 22a	6 03b	32.2	37.0	26.9	33.2	2.0	1.7	.....	2.5	18.5	16.5	21.0
23	11 46	6 46	11 53a	6 49b	39.6	45.2	33.5	39.0	1.9	1.6	.....	2.4	22.6	19.9	22.0
24	11 36	6 26	11 39a	6 29b	35.9	41.0	30.4	35.3	1.8	1.5	.....	2.3	20.5	18.1	22.0
25	11 39	6 25	11 36a	6 28b	39.4	45.0	33.8	38.8	1.9	1.6	.....	2.4	22.5	19.8	22.0
26	12 00	6 56	11 57a	6 58b	41.2	47.0	34.9	40.5	1.9	1.7	.....	2.5	23.5	20.7	22.0
27	11 23	5 58	11 20a	6 01b	26.3	30.0	22.2	25.8	1.5	1.3	.....	2.0	15.0	13.3	21.0
28	11 08	4 59	11 04a	5 03b	20.9	23.8	17.6	21.3	1.4	1.4	8 06	1.8	11.9	10.7	20.0
29	11 06	5 01	11 02a	5 05b	21.5	24.5	18.2	21.0	1.4	1.2	.....	1.8	12.2	10.8	20.0
30	11 03	5 22	10 59a	5 26b	19.7	22.5	16.7	19.4	1.3	1.1	.....	1.7	11.2	9.8	19.0
31	10 44	4 57	10 39a	5 02b	17.5	20.0	14.8	17.2	1.3	1.1	.....	1.6	10.0	8.8	19.0
32	10 57	5 02	10 52a	5 07b	15.7	18.0	13.2	16.8	1.2	1.1	.....	1.6	9.0	8.0	18.0
33	11 04	5 03	11 00a	5 08b	17.5	21.0	14.0	19.0	1.3	1.2	.....	1.8	8.7	9.5	19.0
34	11 20	5 23	11 16a	5 27b	19.4	22.3	16.3	20.1	1.3	1.2	.....	1.8	9.7	10.0	19.0
35	11 24	5 27	11 20a	5 31b	19.0	21.8	16.0	19.7	1.3	1.2	.....	1.8	9.5	9.8	19.0
36	11 07	5 04	11 03a	5 08b	20.4	23.5	17.0	21.1	1.3	1.2	.....	1.8	10.2	10.3	19.0
37	11 09	5 05	11 04a	5 09b	18.2	20.7	15.4	18.4	1.4	1.3	8 14	1.7	9.1	9.2	19.0
38	11 14	5 13	11 10a	5 18b	18.4	21.2	15.5	19.1	1.3	1.2	.....	1.8	9.2	9.5	19.0
39	11 07	5 02	11 03a	5 06b	20.3	23.3	17.1	21.0	1.4	1.2	.....	1.9	10.2	10.4	19.0
40	11 18	5 18	11 14a	5 22b	21.7	24.9	18.2	22.5	1.4	1.3	.....	1.9	10.8	11.2	19.0
41	11 18	5 19	11 14a	5 23b	19.8	22.8	16.6	20.5	1.3	1.2	.....	1.8	9.9	10.2	19.0
42	11 24	5 25	11 20a	5 29b	19.9	22.9	16.7	20.6	1.3	1.2	.....	1.8	10.0	10.3	19.0
43	11 29	5 31	11 25a	5 36b	20.0	23.0	16.8	20.7	1.4	1.2	.....	1.9	10.0	10.3	19.0
44	11 36	5 40	11 32a	5 44b	20.3	23.3	17.1	21.0	1.4	1.2	.....	1.9	10.2	10.4	19.0
45	10 55	4 52	10 50a	4 57b	15.2	17.5	12.8	15.8	1.2	1.1	.....	1.6	7.6	7.9	19.0
46	10 43	4 38	10 39a	4 42b	14.1	16.2	11.9	14.7	1.2	1.0	.....	1.5	7.0	7.3	18.0
47	10 44	4 40	10 39a	4 46b	12.5	14.4	10.5	13.1	1.1	1.0	.....	1.5	6.2	6.5	18.0
48	11 02	4 59	10 57a	5 04b	13.5	15.5	11.3	14.1	1.1	1.0	.....	1.5	6.8	7.0	18.0
49	10 46	4 42	10 41a	4 48b	12.8	14.7	10.8	13.4	1.1	1.2	.....	1.5	6.4	6.7	18.0
50	10 49	4 45	10 44a	4 50b	12.3	14.1	10.3	12.9	1.1	0.9	.....	1.4	6.2	6.4	18.0
51	10 33	4 24	10 28a	4 30b	12.0	13.8	10.0	12.5	1.0	0.9	.....	1.4	6.0	6.3	18.0
52	10 58	4 49	10 53a	4 55b	11.7	13.5	9.8	12.2	1.0	0.9	.....	1.4	5.8	6.1	18.0
53	10 40	4 30	10 34a	4 38b	11.0	12.6	9.2	12.4	1.4	1.1	.....	1.8	5.5	6.1	18.0
54	11 14	5 04	11 08a	5 12b	11.3	13.0	9.5	12.7	1.4	1.1	.....	1.8	5.6	6.2	18.0
55	10 43	4 23	10 37a	4 31b	11.2	12.9	9.4	12.6	1.4	1.1	.....	1.8	5.6	6.2	17.0
56	10 54	4 44	10 48a	4 52b	11.3	13.0	9.5	12.7	1.4	1.1	.....	1.8	5.6	6.2	17.0
57	10 44	4 34	10 38a	4 42b	11.2	12.9	9.4	12.6	1.4	1.1	.....	1.8	5.6	6.2	17.0
58	10 48	4 38	10 42a	4 46b	10.9	12.5	9.2	12.3	1.4	1.1	.....	1.7	5.4	6.0	17.0
59	10 44	4 34	10 38a	4 42b	10.5	12.1	8.9	11.8	1.3	1.1	.....	1.7	5.2	5.8	17.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (EAST COAST)—Continued.												
MAINE—Continued.												
		North.	West.					Time meridian, 75° W.		Mean Low Water.		
		° ' "	° ' "	h. m.				h. m.	h. m.	feet.	feet.	
1	Gouldsboro Point.....	44 28	67 59	4 32	Boston.....	69	-0 44	-0 44	+1.4	0.0	1.7	
2	Prospect Harbor.....	44 24	68 01	4 32	Boston.....	69	-0 50	-0 51	+1.2	0.0	1.7	
3	Winter Harbor, Frenchman Bay.....	44 23	68 05	4 32	Boston.....	69	-0 48	-0 49	+1.2	0.0	1.7	
4	Eastern Pt. Har., Frenchman Bay.....	44 28	68 11	4 33	Boston.....	69	-0 40	-0 41	+1.6	0.0	1.7	
5	Sullivan, Frenchman Bay.....	44 31	68 12	4 33	Boston.....	69	-0 30	-0 30	+1.9	0.0	1.7	
6	Mount Desert Narrows.....	44 26	68 22	4 33	Boston.....	69	-0 29	-0 29	+0.9	0.0	1.7	
7	Salisbury Cove, Mt. Desert Island.....	44 26	68 17	4 33	Boston.....	69	-0 38	-0 39	+0.7	0.0	1.5	
8	Bar Harbor, Mount Desert Island.....	44 23	68 12	4 33	Boston.....	69	-0 47	-0 42	+0.8	0.0	1.6	
9	Southwest Har., Mt. Desert Island.....	44 16	68 19	4 33	Boston.....	69	-0 37	-0 38	+0.4	0.0	1.4	
10	Somesville, Mount Desert Island.....	44 22	68 20	4 33	Boston.....	69	-0 35	-0 36	+0.4	0.0	1.4	
11	Basco Harbor, Mt. Desert Island.....	44 15	68 21	4 33	Boston.....	69	-0 46	-0 47	+0.4	0.0	1.4	
12	Pretty Marsh Har., Mt. Desert I.....	44 20	68 25	4 34	Boston.....	69	-0 37	-0 38	+0.6	0.0	1.6	
13	Union River, Blue Hill Bay.....	44 30	68 26	4 34	Boston.....	69	-0 27	-0 27	+0.4	0.0	1.6	
14	Blue Hill Harbor, Blue Hill Bay.....	44 24	68 34	4 34	Boston.....	69	-0 31	-0 31	+1.3	0.0	1.6	
15	Allen Cove, Blue Hill Bay.....	44 18	68 32	4 34	Boston.....	69	-0 36	-0 37	+0.7	0.0	1.7	
16	Mackerel Cove, Blue Hill Bay.....	44 10	68 26	4 34	Boston.....	69	-0 44	-0 45	+0.6	0.0	1.7	
17	Naskeag Har., Eggemoggin Reach.....	44 13	68 33	4 34	Boston.....	69	-0 38	-0 42	+0.4	0.0	1.6	
18	Sedgwick, Eggemoggin Reach.....	44 18	68 37	4 34	Boston.....	69	-0 20	-0 24	+0.3	0.0	1.5	
Penobscot Bay.												
19	Matinicus Harbor.....	43 52	68 53	4 36	Boston.....	69	-0 51	-0 55	-0.7	0.0	0.8	
20	Head Harbor, Isle au Haut.....	44 01	68 37	4 34	Boston.....	69	-0 49	-0 53	-0.5	0.0	0.8	
21	Kimball Island.....	44 04	68 39	4 35	Boston.....	69	-0 45	-0 49	-0.3	0.0	0.7	
22	Carvers Harbor, Fox Islands.....	44 03	68 50	4 35	Boston.....	69	-0 42	-0 46	-0.3	0.0	0.7	
23	Iron Point, Fox Islands.....	44 08	68 52	4 35	Boston.....	69	-0 29	-0 33	+0.4	0.0	1.4	
24	Pulpit or North Harbor, Fox Is.....	44 09	68 53	4 36	Boston.....	69	-0 34	-0 37	+0.3	0.0	1.6	
25	Rockland.....	44 06	69 06	4 36	Boston.....	69	-0 27	-0 31	0.0	0.0	1.5	
26	Greens Landing, Deer Isle.....	44 09	68 40	4 35	Boston.....	69	-0 38	-0 42	0.0	0.0	1.6	
27	Oceanville, Deer Isle.....	44 12	68 38	4 35	Boston.....	69	-0 37	-0 41	+0.2	0.0	1.6	
28	Northwest Harbor, Deer Isle.....	44 13	68 41	4 35	Boston.....	69	-0 28	-0 32	+0.1	0.0	1.5	
29	Camden.....	44 12	69 03	4 36	Boston.....	69	-0 23	-0 27	+0.1	0.0	1.5	
30	Castine.....	44 23	68 48	4 35	Boston.....	69	-0 12	-0 15	+0.2	0.0	1.5	
31	Belfast.....	44 25	69 00	4 36	Boston.....	69	-0 01	-0 04	+0.6	0.0	1.6	
Penobscot River.												
32	Fort Point.....	44 28	68 49	4 35	Boston.....	69	-0 08	-0 06	+0.5	0.0	1.6	
33	Bucksport.....	44 35	68 49	4 35	Boston.....	69	+0 13	+0 11	+1.0	0.0	1.1	
34	Hampden.....	44 45	68 50	4 35	Boston.....	69	+0 53	+0 57	+2.4	0.0	1.5	
35	Bangor.....	44 49	68 47	4 35	Boston.....	69	+1 11	+1 20	+3.5	0.0	1.5	
Outer coast.												
36	Owls Head.....	44 06	69 03	4 36	Portland.....	65	-0 07	-0 05	+0.5	0.0	1.6	
37	Tenants Harbor.....	43 58	69 12	4 37	Portland.....	65	-0 21	-0 20	+0.5	0.0	1.6	
38	Herring Gut.....	43 56	69 16	4 37	Portland.....	65	-0 19	-0 18	+0.5	0.0	1.6	
39	Thomaston, St. George River.....	44 04	69 11	4 37	Portland.....	65	+0 06	+0 07	+1.1	0.0	1.7	
40	New Harbor, Muscongus Bay.....	43 52	69 29	4 38	Portland.....	65	-0 24	-0 24	+0.4	0.0	1.6	
41	Broad Cove, Medomak River.....	44 02	69 24	4 38	Portland.....	65	-0 06	-0 06	+0.5	0.0	1.6	
42	Waldoboro, Medomak River.....	44 06	69 23	4 38	Portland.....	65	+0 14	+0 15	+1.1	0.0	1.7	
43	Johns Bay.....	43 52	69 32	4 38	Portland.....	65	-0 24	-0 24	+0.5	0.0	1.6	
44	East Boothbay, Damariscotta R.....	43 52	69 35	4 38	Portland.....	65	-0 14	-0 14	+0.1	0.0	1.6	
45	Newcastle, Damariscotta River.....	44 03	69 33	4 38	Portland.....	65	+0 11	+0 12	+0.8	0.0	1.7	
46	Boothbay.....	43 50	69 39	4 39	Portland.....	65	-0 14	-0 14	+0.5	0.0	1.6	
47	Herman Harbor, Sheepscot River.....	43 49	69 43	4 39	Portland.....	65	-0 14	-0 14	+0.6	0.0	1.7	
48	Jewett Cove, Sheepscot River.....	43 52	69 42	4 39	Portland.....	65	-0 08	-0 08	+0.7	0.0	1.7	
49	Wiscasset, Sheepscot River.....	44 00	69 40	4 39	Portland.....	65	+0 10	+0 11	+0.9	0.0	1.7	
50	Hockomoc Bay.....	43 53	69 44	4 39	Portland.....	65	+0 08	+0 09	+0.4	0.0	1.4	
Kennebec River.												
51	Hunniwell Point.....	43 45	69 47	4 39	Portland.....	65	+0 11	+0 03	-0.6	0.0	0.8	
52	Phillipsburg.....	43 49	69 48	4 39	Portland.....	65	+0 06	+0 06	-0.3	0.0	0.7	
53	Bath.....	43 55	69 49	4 39	Portland.....	65	+1 00	+1 18	-2.6	0.0	0.7	
54	Pleasant Point.....	43 54	69 52	4 39	Portland.....	65	+2 13	+2 34	-4.2	0.0	0.8	
55	Abagadasset Point.....	44 00	69 49	4 39	Portland.....	65	+2 15	+2 36	-3.8	0.0	0.8	
56	Bowdoinham.....	44 01	69 53	4 40	Portland.....	65	+2 18	+2 47	-2.9	0.0	0.8	
57	Dresden.....	44 05	69 47	4 39	Portland.....	65	+2 42	+3 12	-3.8	0.0	0.8	
58	Gardiner.....	44 14	69 46	4 39	Portland.....	65	+3 25	+4 11	-3.8	0.0	0.8	
59	Hallowell.....	44 17	69 47	4 39	Portland.....	65	+3 51	+5 05	-4.6	0.0	0.8	
60	Augusta.....	44 18	69 46	4 39	Portland.....	65	+4 06	+5 20	-4.6	0.0	0.8	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	10 56	4 46	10 50a	4 54b	11.0	12.6	9.2	12.3	1.4	1.1	.....	1.8	5.5	6.1	17.0
2	10 50	4 39	10 44a	4 47b	10.8	12.4	9.1	12.2	1.4	1.1	.....	1.7	5.4	6.0	17.0
3	10 52	4 41	10 46a	4 49b	10.8	12.4	9.1	12.2	1.4	1.1	.....	1.7	5.4	6.0	17.0
4	10 59	4 48	10 53a	4 56b	11.2	12.9	9.4	12.6	1.4	1.1	.....	1.8	5.6	6.2	17.0
5	11 09	4 59	11 03a	5 07b	11.5	13.2	9.7	12.9	1.4	1.1	.....	1.8	5.8	6.3	17.0
6	11 10	5 00	11 04a	5 08b	10.5	11.8	9.1	11.9	1.4	1.1	.....	1.8	5.2	5.7	17.0
7	11 01	4 50	10 55a	4 58b	10.3	11.6	8.9	11.7	1.4	1.1	.....	1.8	5.2	5.8	17.0
8	10 52	4 47	10 46a	4 55b	10.4	11.8	9.0	11.6	1.4	1.1	.....	1.8	5.2	5.7	17.0
9	11 02	4 51	10 56a	4 58b	10.0	11.6	8.5	11.3	1.3	1.0	.....	1.7	5.0	5.6	16.5
10	11 04	4 53	10 58a	5 01b	10.0	11.5	8.4	11.2	1.3	1.0	.....	1.7	5.0	5.5	16.5
11	10 53	4 42	10 47a	4 50b	10.0	11.5	8.4	11.2	1.3	1.0	.....	1.7	5.0	5.5	16.5
12	11 01	4 50	10 55a	4 58b	10.2	11.7	8.6	11.5	1.3	1.1	.....	1.7	5.1	5.7	16.5
13	11 11	5 01	11 05a	5 09b	10.0	11.5	8.4	11.2	1.3	1.1	.....	1.7	5.0	5.5	16.5
14	11 07	4 57	11 01a	5 05b	10.9	12.5	9.2	12.3	1.4	1.1	.....	1.8	5.4	6.3	16.5
15	11 02	4 51	10 56a	4 59b	10.3	11.8	8.7	11.6	1.3	1.1	.....	1.7	5.2	5.7	16.5
16	10 54	4 43	10 48a	4 51b	10.2	11.7	8.6	11.5	1.3	1.1	.....	1.7	5.1	5.7	16.5
17	11 00	4 46	10 54a	4 54b	10.0	11.5	8.4	11.2	1.3	1.0	.....	1.7	5.0	5.5	16.5
18	11 18	5 04	11 12a	5 12b	9.9	11.4	8.3	11.1	1.3	1.0	.....	1.7	5.0	5.5	16.5
19	10 45	4 31	10 39a	4 39b	8.9	10.2	7.5	10.1	1.2	1.0	.....	1.6	4.4	5.0	16.0
20	10 49	4 35	10 43a	4 43b	9.1	10.5	7.6	10.3	1.2	1.0	.....	1.6	4.6	5.1	16.0
21	10 52	4 38	10 46a	4 46b	9.3	10.7	7.8	10.5	1.3	1.0	.....	1.6	4.6	5.2	16.0
22	10 55	4 41	10 49a	4 49b	9.3	10.7	7.8	10.5	1.3	1.0	.....	1.6	4.6	5.2	16.0
23	11 08	4 54	11 02a	5 02b	10.0	11.5	8.4	11.2	1.3	1.0	.....	1.7	5.0	5.5	16.0
24	11 02	4 49	10 56a	4 57b	9.9	11.4	8.3	11.2	1.3	1.0	8 14	1.7	5.0	5.5	16.0
25	11 09	4 55	11 03a	5 03b	9.6	11.0	8.1	10.8	1.3	1.0	.....	1.6	4.8	5.5	16.0
26	10 59	4 45	10 53a	4 53b	9.6	11.0	8.1	10.8	1.3	1.0	.....	1.6	4.8	5.3	16.0
27	11 00	4 46	10 54a	4 54b	9.8	11.3	8.2	11.0	1.3	1.0	.....	1.7	4.9	5.4	16.0
28	11 09	4 55	11 03a	5 03b	9.7	11.2	8.1	10.9	1.3	1.0	.....	1.6	4.8	5.4	16.0
29	11 13	4 59	11 07a	5 07b	9.7	11.2	8.1	10.9	1.3	1.0	.....	1.6	4.8	5.4	16.0
30	11 25	5 12	11 19a	5 20b	9.8	11.3	8.2	11.0	1.3	1.0	.....	1.7	4.9	5.4	16.5
31	11 35	5 22	11 29a	5 30b	10.2	11.7	8.6	11.5	1.3	1.1	.....	1.7	5.1	5.7	16.5
32	11 34	5 21	11 28a	5 29b	10.1	11.6	8.5	11.3	1.3	1.0	.....	1.7	5.0	5.7	17.0
33	11 50	5 38	11 44a	5 46b	10.6	12.2	8.9	11.9	1.8	1.1	.....	1.7	5.3	5.9	17.0
34	0 06	6 24	0 00b	6 31b	12.0	13.8	10.8	13.2	1.4	1.1	.....	1.8	6.0	6.5	17.0
35	0 23	6 47	0 18b	6 54b	13.1	15.1	11.0	13.4	1.5	1.2	.....	1.9	6.6	7.2	17.5
36	11 09	4 56	11 03a	5 05b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.2	16.0
37	10 54	4 40	10 49a	4 49b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.2	16.0
38	10 56	4 42	10 50a	4 51b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.2	16.0
39	11 21	5 07	11 15a	5 16b	10.0	11.5	8.4	11.2	1.5	1.2	.....	1.9	5.0	5.6	16.0
40	10 50	4 35	10 44a	4 44b	9.3	10.7	7.8	10.5	1.4	1.1	.....	1.8	4.6	5.2	15.5
41	11 08	4 53	11 02a	5 02b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.3	16.0
42	11 28	5 14	11 22a	5 23b	10.0	11.5	8.4	11.2	1.5	1.1	.....	1.9	5.0	5.6	16.0
43	10 50	4 35	10 44a	4 44b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.3	15.5
44	11 00	4 45	10 53a	4 55b	9.0	10.4	7.6	10.2	1.4	1.1	.....	1.8	4.6	4.7	15.5
45	11 25	5 11	11 19a	5 20b	9.7	11.2	8.1	10.9	1.5	1.2	.....	1.8	4.8	5.5	16.0
46	10 59	4 44	10 53a	4 53b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.5	15.5
47	10 59	4 44	10 53a	4 53b	9.5	10.9	8.0	10.7	1.4	1.1	.....	1.8	4.8	5.3	15.5
48	11 05	4 50	10 59a	4 59b	9.6	11.0	8.1	10.8	1.4	1.1	.....	1.8	4.8	5.3	15.5
49	11 23	5 09	11 17a	5 18b	9.8	11.2	8.2	11.0	1.5	1.2	.....	1.8	4.9	5.5	16.0
50	11 21	5 07	11 15a	5 16b	9.3	10.7	7.8	10.5	1.4	1.1	.....	1.8	4.6	5.2	15.5
51	11 24	5 01	11 17a	5 11b	8.3	9.5	7.0	9.5	1.4	1.1	.....	1.7	4.2	4.6	15.5
52	11 19	5 04	11 12a	5 14b	8.6	9.9	7.2	9.8	1.4	1.1	.....	1.7	4.3	4.8	15.5
53	12 13	6 16	12 05a	6 27b	6.8	7.3	5.2	7.3	1.2	1.0	.....	1.6	3.2	3.6	15.5
54	1 01	7 32	0 51b	7 46b	4.7	5.4	4.0	5.5	1.0	0.8	.....	1.3	2.4	2.7	15.5
55	1 03	7 34	0 55b	7 46b	5.6	6.4	4.7	6.5	1.1	0.9	.....	1.4	2.8	3.2	15.5
56	1 05	7 41	0 57b	7 56b	6.0	6.9	5.0	7.0	1.1	1.0	.....	1.5	3.0	3.5	15.5
57	1 30	8 10	1 22b	8 22b	5.1	5.9	4.3	6.0	1.1	0.8	.....	1.3	2.6	2.9	16.0
58	2 13	9 09	2 05b	9 21b	5.1	5.9	4.3	6.0	1.1	0.8	.....	1.3	2.6	2.9	16.0
59	2 39	10 03	2 29b	10 17b	4.3	4.9	3.6	5.1	1.0	0.8	.....	1.2	2.2	2.5	16.0
60	2 54	10 18	2 44b	10 32b	4.3	4.9	3.6	5.1	1.0	0.8	.....	1.2	2.2	2.5	16.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rat. of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
MAINE—continued.											
Casco Bay.											
		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		o /	o /	h. m.			h. m.	h. m.	feet.	feet.	
1	Small Point Harbor.....	43 44	69 51	4 39	Portland.....	65	-0 15	-0 15	-0.2	0.0	0.9
2	Foster Point, New Meadow R.....	43 52	69 53	4 40	Portland.....	65	+0 21	+0 25	0.0	0.0	1.0
3	Lowell Cove, Orrs Island.....	43 45	69 59	4 40	Portland.....	65	0 00	0 00	-0.1	0.0	0.9
4	Mericoneag Sound.....	43 43	70 01	4 40	Portland.....	65	-0 02	-0 02	-0.3	0.0	0.7
5	Harpeswell Harbor.....	43 46	70 00	4 40	Portland.....	65	-0 17	-0 21	0.0	0.0	1.1
6	Potts Harbor.....	43 44	70 02	4 40	Portland.....	65	0 00	0 00	-0.2	0.0	0.9
7	Middle Bay Cove, Pennell's Wharf.....	43 51	69 57	4 40	Portland.....	65	+0 27	+0 32	+0.5	0.0	1.0
8	Maquoit Bay.....	43 51	70 01	4 40	Portland.....	65	+0 23	+0 26	+0.6	0.0	1.0
9	Bartol Point, Freeport River.....	43 50	70 06	4 40	Portland.....	65	+0 25	+0 29	+0.1	0.0	1.1
10	Great Chebeag Island.....	43 45	70 06	4 40	Portland.....	65	+0 01	+0 01	0.0	0.0	1.0
11	Parker Point, Yarmouth River.....	43 47	70 08	4 41	Portland.....	65	+0 24	+0 27	+0.2	0.0	1.0
12	PORTLAND.....	43 59	70 15	4 41	Portland.....	65	0 00	0 00	0.0	0.0	1.0
Outer coast.											
13	Richmonds Island.....	43 33	70 14	4 41	Portland.....	65	-0 11	-0 11	-0.3	0.0	0.9
14	Wood Island.....	43 27	70 20	4 41	Portland.....	65	+0 01	-0 05	0.0	0.0	1.0
15	Saco River Entrance.....	43 28	70 24	4 42	Portland.....	65	-0 03	-0 03	0.0	0.0	1.0
16	Kennebunk Port.....	43 22	70 28	4 42	Portland.....	65	+0 05	+0 06	0.0	0.0	1.0
NEW HAMPSHIRE.											
17	Portsmouth.....	43 05	70 44	4 43	Portland.....	65	+0 14	+0 15	+0.3	0.0	1.0
18	Isles of Shoals Light.....	42 58	70 37	4 42	Portland.....	65	+0 09	+0 03	-0.2	0.0	0.9
19	Hampton Harbor.....	42 54	70 49	4 43	Portland.....	65	+0 17	+0 18	-1.2	0.0	0.7
MASSACHUSETTS.											
20	Newburyport.....	42 48	70 52	4 43	Portland.....	65	+0 14	+0 16	-1.0	0.0	0.9
21	Ipswich Entrance.....	42 41	70 50	4 43	Portland.....	65	+0 06	+0 10	-0.1	0.0	0.9
22	Annisquam.....	42 40	70 41	4 43	Portland.....	65	+0 04	+0 06	-0.1	0.0	0.9
23	Rockport.....	42 39	70 37	4 42	Portland.....	65	-0 13	-0 12	-0.3	0.0	0.9
24	Gloucester.....	42 37	70 40	4 43	Portland.....	65	-0 07	-0 05	0.0	0.0	1.0
25	Salem.....	42 32	70 53	4 44	Boston.....	69	-0 12	-0 15	-0.6	0.0	0.9
26	Marblehead.....	42 30	70 51	4 43	Boston.....	69	-0 20	-0 22	-0.4	0.0	0.9
27	Nahant.....	42 25	70 54	4 44	Boston.....	69	-0 19	-0 21	-0.3	0.0	0.9
28	Lynn Harbor.....	42 27	70 57	4 44	Boston.....	69	-0 08	-0 10	-0.1	0.0	0.9
29	Boston.....	42 22	71 03	4 44	Boston.....	69	0 00	0 00	0.0	0.0	1.0
30	Boston Light.....	42 20	70 53	4 44	Boston.....	69	-0 19	-0 22	-0.1	0.0	0.9
31	Cohasset Harbor.....	42 15	70 47	4 43	Boston.....	69	-0 19	-0 22	-0.2	0.0	0.9
32	Gurnet Light.....	42 00	70 36	4 42	Boston.....	69	-0 07	-0 09	-0.2	0.0	0.9
33	Plymouth.....	41 57	70 40	4 43	Boston.....	69	-0 10	-0 11	+0.6	0.0	1.0
34	Sandwich.....	41 46	70 28	4 42	Boston.....	69	+0 02	0 00	+0.1	0.0	1.1
35	Sandy Neck Light.....	41 43	70 17	4 41	Boston.....	69	+0 05	+0 04	-0.3	0.0	0.9
36	Wellfleet, Cape Cod.....	41 56	70 02	4 40	Boston.....	69	-0 12	-0 13	+1.1	0.0	1.1
37	Provincetown, Cape Cod.....	42 03	70 11	4 41	Boston.....	69	-0 02	-0 04	-0.4	0.0	0.9
38	Race Point, Cape Cod.....	42 04	70 15	4 41	Boston.....	69	-0 10	-0 13	-0.7	0.0	0.9
39	Nauset Harbor, Cape Cod.....	41 48	69 56	4 40	Boston.....	69	+0 18	+0 40	-3.1	0.0	0.6
40	Pleasant Bay, Cape Cod.....	41 43	69 58	4 40	Boston.....	69	+1 09	+1 43	-6.1	0.0	0.6
41	Chatham, Cape Cod.....	41 40	69 58	4 40	Boston.....	69	+0 39	+0 35	-5.6	0.0	0.6
42	Monomoy Point.....	41 33	70 00	4 40	Boston.....	69	+0 28	+0 26	-5.9	0.0	0.6
43	Pollock Rip.....	41 33	69 55	4 40	Boston.....	69	+0 18	+0 16	-5.5	0.0	0.6
Nantucket Sound, north side.											
44	Stage Harbor.....	41 40	69 58	4 40	Newport.....	73	+4 44	+5 13	-0.2	0.0	0.9
45	Base River Breakwater.....	41 38	70 11	4 41	Newport.....	73	+4 40	+4 57	+0.2	0.0	1.0
46	Point Gammon.....	41 37	70 16	4 41	Newport.....	73	+4 37	+4 44	-0.2	0.0	0.9
47	Hyannis.....	41 38	70 17	4 41	Newport.....	73	+4 35	+4 42	-0.4	0.0	0.9
48	Succoneset Point.....	41 33	70 29	4 42	Old Point Comfort.....	105	+3 08	+3 02	-0.6	0.0	0.7
Nantucket Island.											
49	Great Point.....	41 23	70 03	4 40	Newport.....	73	+4 21	+4 46	-0.5	0.0	0.9
50	Wauwinet (outer shore).....	41 20	70 00	4 40	Newport.....	73	+4 37	+5 09	-0.2	0.0	0.9
51	Siasconset.....	41 16	69 58	4 40	Old Point Comfort.....	105	+2 25	+2 44	-0.2	0.0	0.9
52	Tom Nevers Head.....	41 14	70 01	4 40	Old Point Comfort.....	105	+1 13	+1 03	-1.3	0.0	0.9
53	Forked Pond.....	41 14	70 02	4 40	Old Point Comfort.....	105	-0 30	-0 07	-1.1	0.0	0.9
54	Weweeder.....	41 14	70 06	4 40	Old Point Comfort.....	105	-1 02	-0 45	-0.3	0.0	0.9
55	Smith Point, south side.....	41 17	70 15	4 41	Old Point Comfort.....	105	-1 13	-0 55	-0.3	0.0	0.9
56	Smith Point, north side.....	41 17	70 15	4 41	Old Point Comfort.....	105	+3 05	+3 04	-0.2	0.0	1.0
57	Nantucket Harbor.....	41 17	70 06	4 40	Old Point Comfort.....	105	+3 19	+3 19	+0.6	0.0	1.2

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	10 58	4 43	10 51a	4 58b	8.7	10.0	7.3	9.9	1.4	1.1	.....	1.7	4.4	4.9	15.5
2	11 33	5 22	11 26a	5 32b	8.9	10.2	7.5	10.1	1.4	1.1	.....	1.8	4.4	5.0	15.5
3	11 12	4 57	11 05a	5 07b	8.8	10.1	7.4	10.0	1.4	1.1	.....	1.8	4.4	4.9	15.5
4	11 10	4 55	11 03a	5 05b	8.6	9.9	7.2	9.8	1.4	1.1	.....	1.7	4.3	4.8	15.5
5	10 56	4 36	10 48a	4 46b	8.9	10.2	7.5	10.1	1.4	1.1	.....	1.8	4.4	5.0	15.5
6	11 12	4 57	11 05a	5 07b	8.7	10.0	7.3	9.9	1.4	1.1	.....	1.7	4.4	4.9	15.5
7	11 39	5 29	11 33a	5 38b	9.4	10.8	7.9	10.6	1.4	1.1	.....	1.8	4.7	5.2	15.5
8	11 35	5 23	11 29a	5 32b	9.5	10.9	8.0	10.7	1.4	1.1	.....	1.8	4.8	5.3	15.5
9	11 37	5 26	11 30a	5 36b	9.0	10.4	7.6	10.2	1.4	1.1	.....	1.8	4.6	5.0	15.5
10	11 13	4 58	11 06a	5 08b	8.9	10.2	7.5	10.1	1.4	1.1	.....	1.8	4.4	5.0	15.5
11	11 35	5 23	11 28a	5 33b	9.1	10.5	7.6	10.3	1.4	1.1	.....	1.8	4.6	5.1	15.5
12	11 11	4 56	11 03a	5 05b	8.9	10.2	7.5	9.8	1.2	1.2	8 12	1.7	4.5	4.9	15.5
13	11 00	4 45	10 53a	4 55b	8.6	9.9	7.2	9.8	1.4	1.1	.....	1.7	4.3	4.8	15.0
14	11 12	4 51	11 05a	5 01b	8.9	10.2	7.5	10.2	1.4	1.1	.....	1.8	4.4	5.0	14.5
15	11 07	4 52	11 00a	5 02b	8.9	10.2	7.5	10.2	1.4	1.1	.....	1.8	4.4	5.0	14.5
16	11 15	5 01	11 08a	5 11b	8.9	10.2	7.5	10.2	1.4	1.1	.....	1.8	4.4	5.0	14.5
17	11 23	5 09	11 16a	5 19b	9.2	10.5	7.7	10.4	1.4	1.1	.....	1.8	4.6	5.1	14.0
18	11 19	4 58	11 12a	5 08b	8.7	10.0	7.3	10.0	1.4	1.1	.....	1.7	4.4	4.9	14.0
19	11 26	5 12	11 19a	5 22b	7.7	8.8	6.5	8.8	1.3	1.0	.....	1.6	3.8	4.3	13.5
20	11 23	5 10	11 16a	5 21b	7.9	9.1	6.6	9.0	1.3	1.0	.....	1.7	4.0	4.4	13.5
21	11 17	5 04	11 10a	5 14b	8.8	10.1	7.4	9.9	1.4	1.1	.....	1.8	4.4	4.9	13.5
22	11 13	5 00	11 06a	5 10b	8.8	10.1	7.4	9.9	1.4	1.1	.....	1.8	4.4	4.9	13.5
23	10 57	4 43	10 50a	4 53b	8.6	9.9	7.2	9.7	1.4	1.1	.....	1.7	4.3	4.8	13.5
24	11 02	4 49	10 55a	4 59b	8.9	10.2	7.5	10.0	1.4	1.1	.....	1.8	4.4	5.0	13.5
25	11 16	5 03	11 10a	5 12b	9.0	10.4	7.6	10.0	1.3	1.0	.....	1.6	4.5	4.9	13.5
26	11 09	4 57	11 03a	5 06b	9.2	10.6	7.7	10.0	1.3	1.0	.....	1.6	4.6	4.9	13.5
27	11 09	4 57	11 03a	5 06b	9.3	10.7	7.8	10.1	1.3	1.0	.....	1.6	4.6	4.9	13.0
28	11 20	5 08	11 14a	5 17b	9.5	10.9	8.0	10.3	1.3	1.0	.....	1.7	4.8	5.0	13.0
29	11 28	5 18	11 22a	5 27b	9.6	10.9	8.1	10.1	1.4	1.0	8 56	1.6	4.8	5.0	13.0
30	11 09	4 56	11 03a	5 05b	9.5	10.9	8.0	10.3	1.3	1.0	.....	1.7	4.8	5.1	13.0
31	11 10	4 57	11 04a	5 06b	9.4	10.8	7.9	10.2	1.3	1.0	.....	1.7	4.7	5.0	13.0
32	11 23	5 11	11 17a	5 20b	9.4	10.8	7.9	10.2	1.3	1.0	.....	1.7	4.7	5.0	13.0
33	11 19	5 08	11 13a	5 17b	10.2	11.7	8.6	11.0	1.4	1.0	.....	1.7	5.1	5.4	13.0
34	11 32	5 20	11 26a	5 29b	9.7	11.2	8.1	10.5	1.3	1.0	.....	1.7	4.8	5.2	13.0
35	11 36	5 25	11 30a	5 34b	9.3	10.7	7.8	10.1	1.3	1.0	.....	1.6	4.6	4.9	13.0
36	11 20	5 09	11 14a	5 18b	10.7	12.3	9.0	11.5	1.4	1.0	.....	1.8	5.4	5.7	13.5
37	11 29	5 17	11 23a	5 26b	9.2	10.6	7.7	10.0	1.3	1.0	.....	1.6	4.6	4.9	13.5
38	11 21	5 08	11 15a	5 17b	8.9	10.2	7.5	9.7	1.3	1.0	.....	1.6	4.4	4.8	13.5
39	11 50	6 02	11 43a	6 12b	6.5	7.5	5.5	7.1	1.0	0.7	.....	1.3	3.2	3.4	13.5
40	0 16	7 05	0 07b	7 18b	3.5	4.0	2.9	3.9	0.7	0.5	.....	0.9	1.8	1.9	13.5
41	12 11	5 57	12 01a	6 11b	4.0	4.6	3.4	4.5	0.9	0.6	.....	1.1	2.0	2.2	13.5
42	12 00	5 38	11 50a	6 01b	3.7	4.3	3.1	4.2	0.8	0.6	.....	1.0	1.8	2.0	13.0
43	11 50	5 38	11 40a	6 51b	4.1	4.7	3.4	4.6	0.9	0.6	.....	1.1	2.0	2.2	13.0
44	0 08	6 07	0 08b	6 54b	3.3	4.0	2.4	3.5	0.7	0.1	.....	0.7	1.6	1.8	13.5
45	0 03	5 50	0 03b	5 36b	3.7	4.6	2.7	3.9	0.8	0.1	.....	0.8	1.8	1.8	13.0
46	0 00	5 37	0 00b	5 24b	3.3	4.0	2.4	3.5	0.7	0.1	.....	0.7	1.6	1.6	13.0
47	12 23	5 35	12 23a	5 21b	3.1	3.8	2.3	3.3	0.7	0.1	.....	0.7	1.6	1.5	13.0
48	12 16	5 41	12 16a	6 21b	1.9	2.4	1.4	2.1	0.6	0.1	.....	0.6	1.0	0.9	13.0
49	12 10	5 40	12 10a	6 26b	3.0	3.7	2.2	3.2	0.7	0.1	.....	0.7	1.5	1.5	13.0
50	0 01	6 03	0 01b	5 50b	3.3	4.0	2.4	3.5	0.7	0.1	.....	0.7	1.6	1.6	13.0
51	11 35	5 25	11 35a	5 09b	2.3	2.8	1.7	2.5	0.6	0.1	.....	0.6	1.2	1.1	12.5
52	10 23	3 44	10 23a	3 23b	1.2	1.4	0.9	1.3	0.4	0.1	.....	0.4	0.6	0.6	12.5
53	8 40	2 34	8 40a	2 11b	1.4	1.7	1.0	1.6	0.5	0.1	.....	0.5	0.7	0.7	12.5
54	8 08	1 56	8 08a	1 39b	2.2	2.7	1.6	2.4	0.6	0.1	.....	0.6	1.1	1.1	12.5
55	7 56	1 45	7 56a	1 28b	2.2	2.7	1.6	2.4	0.6	0.1	.....	0.6	1.1	1.1	12.5
56	12 14	5 44	12 14a	6 28b	2.7	3.3	2.0	2.9	0.7	0.1	.....	0.7	1.4	1.3	12.5
57	0 04	6 00	0 04b	6 46b	3.1	3.8	2.3	3.3	0.7	0.1	.....	0.7	1.6	1.5	12.5

TABLE 3.—TIDAL DIFFERENCES.

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.					Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (EAST COAST)—Continued.												
MASSACHUSETTS—continued.												
Tuckernuck Island.												
1	East Pond	North. 41 18	West. 70 15	4 41	Old Point Comfort	105	Time meridian, 75° W. h. m. +2 56	h. m. +2 52	Mean Low Water. feet. +0.1	feet. 0.0	1.0	
Muskeget Island.												
2	Life-saving station	41 20	70 19	4 41	Old Point Comfort	105	+1 58	+2 17	-0.9	0.0	0.4	
Chappaquiddick Island.												
3	Cape Poge Light	41 25	70 27	4 42	Old Point Comfort	105	+2 45	+2 33	-0.5	0.0	0.8	
4	Chappaquiddick Dike	41 22	70 27	4 42	Old Point Comfort	105	+2 31	+2 24	-0.9	0.0	0.6	
5	Wasque Point	41 21	70 27	4 42	Old Point Comfort	105	+0 04	+0 22	-1.0	0.0	0.2	
Marthas Vineyard.												
6	Edgartown	41 23	70 31	4 42	Old Point Comfort	105	+3 08	+2 42	-0.5	0.0	0.8	
7	Katama Bay	41 22	70 29	4 42	Old Point Comfort	105	+0 04	+0 21	-0.8	0.0	0.4	
8	Pahognet	41 21	70 35	4 42	Old Point Comfort	105	-0 30	-0 13	-0.4	0.0	0.4	
9	Chilmark Pond	41 20	70 43	4 43	Old Point Comfort	105	-1 02	-0 45	0.0	0.0	1.0	
10	No Mans Land Island	41 18	70 49	4 43	Old Point Comfort	105	-1 42	-1 26	+0.7	0.0	1.2	
11	Gay Head Light	41 21	70 51	4 43	Old Point Comfort	105	-1 36	-1 18	+0.5	0.0	1.2	
12	Menemsha Bight	41 21	70 47	4 43	Old Point Comfort	105	-1 25	-1 05	+0.2	0.0	1.0	
13	Cedar Tree Neck	41 26	70 42	4 43	Old Point Comfort	105	-1 18	-0 41	-0.2	0.0	0.8	
14	Chappaquonsett	41 28	70 38	4 43	Old Point Comfort	105	-0 08	+0 37	-0.2	0.0	0.8	
15	West Chop Light	41 29	70 36	4 42	Old Point Comfort	105	+2 26	+1 54	-0.9	0.0	0.6	
16	Vineyard Haven	41 28	70 36	4 42	Old Point Comfort	105	+2 35	+2 24	-0.8	0.0	0.8	
17	East Chop Light	41 28	70 34	4 42	Old Point Comfort	105	+2 30	+2 01	-0.9	0.0	0.6	
18	Cottage City	41 27	70 33	4 42	Old Point Comfort	105	+2 42	+2 15	-0.8	0.0	0.6	
Vineyard Sound, north side.												
19	Monant Hill	41 33	70 32	4 42	Old Point Comfort	105	+1 16	+1 30	-1.5	0.0	0.4	
20	Falmouth	41 32	70 37	4 42	Old Point Comfort	105	+1 16	+1 33	-1.0	0.0	0.4	
21	Nobeska Point Light	41 31	70 39	4 43	Old Point Comfort	105	-0 36	-0 02	-1.0	0.0	0.6	
22	Tarpaulin Cove	41 28	70 45	4 43	Old Point Comfort	105	-1 17	-0 47	-0.2	0.0	0.8	
23	Quicks Hole, south side	41 26	70 51	4 43	Newport	73	-0 08	+0 38	-0.4	0.0	0.8	
Buzzards Bay.												
24	Cuttyhunk Light	41 25	70 57	4 44	Newport	73	-0 09	+0 09	0.0	0.0	1.0	
25	Penikese Island	41 27	70 55	4 44	Newport	73	-0 08	+0 10	+0.1	0.0	1.0	
26	Quicks Hole, north side	41 27	70 50	4 43	Newport	73	-0 08	+0 07	+0.2	0.0	1.0	
27	Kettle Cove	41 28	70 47	4 43	Newport	73	-0 02	+0 24	+0.8	0.0	1.2	
28	Uncatena I., N. side Woods Hole ..	41 31	70 42	4 43	Newport	73	+0 13	+0 15	+0.6	0.0	1.2	
29	Woods Hole, Fish Comm. Wharf ..	41 31	70 40	4 43	Old Point Comfort	105	-0 31	-0 29	-0.8	0.0	0.7	
30	Hog Island Harbor	41 37	70 38	4 43	Newport	73	+0 04	+0 07	+0.6	0.0	1.0	
31	Pocasset Harbor	41 41	70 37	4 42	Newport	73	+0 03	+0 03	+0.6	0.0	1.0	
32	Back River Harbor	41 44	70 37	4 42	Newport	73	+0 05	-0 02	+0.6	0.0	1.0	
33	Wareham River	41 44	70 43	4 43	Newport	73	+0 14	+0 14	+0.6	0.0	1.0	
34	Bird Island Light	41 40	70 43	4 43	Newport	73	+0 09	+0 08	+0.8	0.0	1.2	
35	Mattapoisett	41 39	70 49	4 43	Newport	73	+0 11	+0 09	+0.4	0.0	1.0	
36	Clark Point	41 36	70 54	4 44	Newport	73	+0 06	+0 18	+0.4	0.0	1.2	
37	New Bedford	41 38	70 55	4 44	Newport	73	+0 12	+0 28	+0.7	0.0	1.2	
38	Dumpling Rock Light	41 32	70 55	4 44	Newport	73	+0 14	+0 18	+0.3	0.0	1.0	
39	Westport	41 31	71 04	4 44	Newport	73	+0 13	+0 37	-0.4	0.0	0.8	
RHODE ISLAND.												
Narragansett Bay.												
40	Sakonnet Point Light	41 27	71 12	4 45	Newport	73	-0 04	-0 16	+0.1	0.0	1.0	
41	NEWPORT	41 29	71 20	4 45	Newport	73	0 00	0 00	0.0	0.0	1.0	
42	Beavertail Light	41 27	71 24	4 46	Newport	73	-0 07	+0 10	+0.3	0.0	1.0	
43	Wickford	41 34	71 27	4 46	Newport	73	+0 07	-0 13	+0.7	0.0	1.2	
44	Prudence Island Light	41 36	71 18	4 45	Newport	73	+0 08	-0 13	+0.8	0.0	1.2	
45	Bristol Ferry Light	41 39	71 16	4 45	Newport	73	+0 09	-0 09	+0.9	0.0	1.2	
46	Bristol	41 40	71 16	4 45	Newport	73	+0 18	+0 07	+0.6	0.0	1.0	
47	Fall River, Mass	41 42	71 10	4 45	Sandy Hook	89	+0 24	-0 47	+0.3	0.0	0.4	
48	East Greenwich	41 40	71 27	4 46	Charleston	113	0 00	-1 00	-0.6	0.0	0.4	
49	Warren	41 44	71 17	4 45	Charleston	113	+0 08	-0 43	-0.5	0.0	0.8	
50	Nayat Point	41 43	71 21	4 45	Charleston	113	-0 07	-0 55	-0.2	0.0	0.4	
51	Pawtuxet	41 46	71 23	4 46	Charleston	113	+0 08	-0 51	-0.4	0.0	0.8	
52	Providence	41 49	71 24	4 46	Newport	73	+0 29	+0 09	+0.9	0.0	1.2	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
1	<i>h. m.</i> 12 05	<i>h. m.</i> 5 32	<i>h. m.</i> 12 06a	<i>h. m.</i> 5 15b	<i>feet.</i> 2.6	<i>feet.</i> 3.0	<i>feet.</i> 1.9	<i>feet.</i> 2.8	<i>feet.</i> 0.7	<i>feet.</i> 0.1	<i>h. m.</i>	<i>feet.</i> 0.7	<i>feet.</i> 1.3	<i>feet.</i> 1.3	<i>West.</i> ° 12.5
2	11 07	4 57	11 07a	4 37b	1.6	2.0	1.2	1.7	0.5	0.1	.....	0.5	0.8	0.8	12.5
3	11 53	5 12	11 53a	4 53b	2.0	2.4	1.5	2.2	0.6	0.1	.....	0.6	1.0	1.0	12.5
4	11 39	5 03	11 39a	4 43b	1.6	2.0	1.2	1.8	0.5	0.1	.....	0.5	0.8	0.8	12.5
5	9 12	3 01	9 12a	2 40b	1.5	1.8	1.0	1.7	0.5	0.1	.....	0.5	0.8	0.7	12.5
6	12 16	5 21	12 16a	5 02b	2.0	2.4	1.5	2.2	0.6	0.1	.....	0.6	1.0	1.0	12.0
7	9 12	3 00	9 12a	2 42b	1.7	2.1	1.2	1.9	0.5	0.1	.....	0.5	0.8	0.8	12.0
8	8 38	2 26	8 38a	2 08b	2.1	2.6	1.5	2.3	0.6	0.1	.....	0.6	1.0	1.0	12.0
9	8 05	1 53	8 05a	1 88b	2.5	3.1	1.8	2.7	0.6	0.1	.....	0.6	1.2	1.2	12.0
10	7 25	1 12	7 25a	0 58b	3.2	4.0	2.3	3.4	0.7	0.1	.....	0.7	1.6	1.6	12.0
11	7 31	1 20	7 31a	1 06b	3.0	3.7	2.2	3.2	0.7	0.1	.....	0.7	1.5	1.5	12.0
12	7 42	1 33	7 42a	1 17b	2.7	3.3	2.0	2.9	0.7	0.1	.....	0.7	1.4	1.3	12.0
13	7 49	1 57	7 49a	1 41b	2.3	2.8	1.7	2.5	0.6	0.1	.....	0.6	1.2	1.1	12.5
14	8 59	3 15	8 59a	2 59b	2.3	2.8	1.7	2.5	0.6	0.1	.....	0.6	1.2	1.1	12.5
15	11 34	4 33	11 34a	4 13b	1.6	2.0	1.2	1.7	0.5	0.1	.....	0.5	0.8	0.8	12.5
16	11 43	5 03	11 43a	4 45b	1.7	2.1	1.2	1.9	0.5	0.1	.....	0.5	0.8	0.8	12.5
17	11 38	4 40	11 38a	4 20b	1.6	2.0	1.2	1.8	0.5	0.1	.....	0.5	0.8	0.8	12.5
18	11 50	4 54	11 50a	4 36b	1.7	2.1	1.2	1.9	0.5	0.1	.....	0.5	0.8	0.8	12.5
19	10 24	4 09	10 24a	3 44b	1.0	1.2	0.7	1.1	0.4	0.1	.....	0.4	0.5	0.5	12.5
20	10 21	4 12	10 24a	3 55b	1.5	1.8	1.1	1.6	0.4	0.1	.....	0.4	0.8	0.7	12.5
21	8 32	2 36	8 32a	2 19b	1.5	1.8	1.1	1.6	0.4	0.1	.....	0.4	0.8	0.7	12.5
22	7 51	1 51	7 51a	1 35b	2.3	2.8	1.7	2.5	0.6	0.1	.....	0.6	1.2	1.1	12.0
23	7 38	1 29	7 38a	1 15b	3.1	3.8	2.3	3.3	0.7	0.1	.....	0.7	1.6	1.5	12.0
24	7 36	0 59	7 36a	0 45a	3.5	4.3	2.6	3.7	0.8	0.1	.....	0.8	1.8	1.7	12.0
25	7 37	1 00	7 37a	0 46a	3.6	4.5	2.6	3.8	0.8	0.1	.....	0.8	1.8	1.8	12.0
26	7 38	0 59	7 38a	0 44a	3.7	4.6	2.7	3.9	0.8	0.1	.....	0.8	1.8	1.8	12.0
27	7 44	1 15	7 44a	1 03a	4.3	5.3	3.1	4.5	0.8	0.1	.....	0.8	2.2	2.1	12.0
28	7 59	1 06	7 59a	0 53a	4.1	5.0	3.0	4.3	0.8	0.1	.....	0.8	2.0	2.0	12.5
29	8 36	2 09	8 36a	1 51a	1.7	2.1	1.2	1.9	0.5	0.1	.....	0.5	0.8	0.8	12.5
30	7 50	0 58	7 50a	0 45a	4.1	5.1	3.0	4.3	0.8	0.1	.....	0.8	2.0	2.0	12.5
31	7 50	0 55	7 50a	0 42a	4.1	5.1	3.0	4.3	0.8	0.1	.....	0.8	2.0	2.0	12.5
32	7 52	0 50	7 52a	0 37a	4.1	5.1	3.0	4.3	0.8	0.1	.....	0.8	2.0	2.0	12.5
33	8 00	1 06	8 00a	0 52a	4.1	5.1	3.0	4.3	0.8	0.1	.....	0.8	2.0	2.0	12.5
34	7 55	0 59	7 55a	0 47a	4.3	5.3	3.1	4.5	0.8	0.1	.....	0.8	2.2	2.1	12.5
35	7 57	1 00	7 57a	0 47a	3.9	4.8	2.8	4.1	0.8	0.1	.....	0.8	2.0	1.9	12.5
36	7 51	1 08	7 51a	0 55a	3.9	4.8	2.8	4.1	0.8	0.1	.....	0.8	2.0	1.9	12.5
37	7 57	1 18	7 57a	1 06a	4.2	5.2	3.1	4.4	0.8	0.1	.....	0.8	2.1	2.1	12.5
38	7 59	1 08	7 59a	0 55a	3.8	4.7	2.8	4.0	0.8	0.1	.....	0.8	1.9	1.9	12.5
39	7 58	1 27	7 58a	1 13a	3.1	3.8	2.3	3.3	0.7	0.1	.....	0.7	1.6	1.5	12.5
40	7 40	1 05	7 40a	0 51a	3.6	4.5	2.6	3.8	0.8	0.1	.....	0.8	1.8	1.8	12.5
41	7 44	0 49	7 47a	0 35a	3.5	4.3	2.5	3.8	0.8	0.1	7 31	0.8	1.7	1.7	12.5
42	7 36	0 58	7 40a	0 56a	3.8	4.7	2.8	4.0	0.8	0.1	.....	0.8	1.9	1.9	12.5
43	7 50	0 35	7 52a	0 23a	4.2	5.2	3.1	4.4	0.8	0.1	.....	0.8	2.1	2.1	12.5
44	7 52	0 36	7 52a	0 24a	4.3	5.3	3.1	4.5	0.8	0.1	.....	0.8	2.2	2.1	12.5
45	7 53	0 40	7 54a	0 29a	4.4	5.2	3.6	4.6	0.8	0.1	.....	0.8	2.2	2.1	12.5
46	8 02	0 56	8 02a	0 44a	4.1	4.8	3.3	4.3	0.8	0.1	7 46	0.8	2.0	2.0	12.5
47	8 10	0 51	8 11a	0 42a	4.9	5.8	4.0	5.1	0.8	0.1	.....	0.8	2.4	2.4	12.5
48	8 00	0 45	8 01a	0 34a	4.5	5.3	3.6	4.7	0.8	0.1	.....	0.8	2.2	2.2	12.5
49	8 04	1 03	8 05a	0 52a	4.6	5.4	3.7	4.8	0.8	0.1	.....	0.8	2.3	2.2	12.5
50	7 54	0 51	7 55a	0 40a	4.9	5.8	4.0	5.1	0.8	0.1	.....	0.8	2.4	2.4	12.5
51	8 03	0 54	8 02a	1 05b	4.7	5.6	3.7	4.9	0.8	0.1	.....	0.8	2.4	2.3	12.5
52	8 12	0 57	8 11a	1 09b	4.4	5.4	3.4	4.7	0.8	0.1	7 25	0.8	2.2	2.1	12.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.			Name.	Page.	Time.		Height.		
			Arc.	Time.	HW.			LW.	HW.	LW.		
NORTH AMERICA (EAST COAST)—Continued.												
RHODE ISLAND—continued.												
Outer coast.		North.	West.					Time meridian, 75° W.		Mean Low Water.		
		° /	° /	h. m.				h. m.	h. m.	feet.	feet.	
1	Point Judith Light.....	41 22	71 29	4 46	Newport.....	73	-0 11	+0 29	-0.4	0.0	0.4	
2	Block Island, Basin Harbor.....	41 10	71 33	4 46	Newport.....	73	-0 10	+0 37	-0.5	0.0	0.4	
3	Watch Hill Light.....	41 18	71 52	4 47	New London.....	77	-0 38	-0 53	+0.3	0.0	1.0	
CONNECTICUT.												
Long Island Sound, north side.												
4	Stonington.....	41 20	71 54	4 48	New London.....	77	-0 27	-0 38	+0.2	0.0	1.0	
5	Noank, Mystic River Entrance.....	41 19	71 59	4 48	New London.....	77	-0 21	-0 30	+0.1	0.0	1.0	
6	New London, Custom-House Whf.....	41 21	72 06	4 48	New London.....	77	0 00	0 00	0.0	0.0	1.0	
7	New London Naval Station.....	41 24	72 06	4 48	New London.....	77	+0 04	+0 12	0.0	0.0	1.0	
8	Norwich, Thames River.....	41 32	72 05	4 48	New London.....	77	+0 41	+0 47	+0.6	0.0	1.5	
9	Millstone Point.....	41 18	72 10	4 49	New London.....	77	+0 14	+0 04	+0.2	0.0	1.0	
10	Saybrook Light, Connecticut Riv.....	41 16	72 21	4 49	New London.....	77	+1 04	+0 42	+1.1	0.0	1.4	
11	Lyme Ferry, Connecticut River.....	41 18	72 20	4 49	New London.....	77	+1 22	+1 09	+0.7	0.0	1.2	
12	Essex, Connecticut River.....	41 21	72 23	4 50	New London.....	77	+1 48	+1 51	+0.4	0.0	1.1	
13	Chester, Connecticut River.....	41 24	72 26	4 50	New London.....	77	+2 16	+2 30	0.0	0.0	1.0	
14	East Haddam, Connecticut River.....	41 27	72 28	4 50	New London.....	77	+2 39	+3 00	-0.3	0.0	0.9	
15	Higganum, Connecticut River.....	41 30	72 33	4 50	New London.....	77	+3 14	+4 01	-0.6	0.0	0.7	
16	Middletown, Connecticut River.....	41 34	72 39	4 51	New London.....	77	+4 05	+5 03	-1.0	0.0	0.6	
17	South Glastonbury, Conn. River.....	41 40	72 37	4 50	New London.....	77	+4 54	+6 12	-1.4	0.0	0.4	
18	Wethersfield, Connecticut River.....	41 43	72 39	4 51	New London.....	77	+5 31	+7 07	-1.6	0.0	0.2	
19	Hartford, Connecticut River.....	41 46	72 40	4 51	New London.....	77	+5 52	+7 38	-1.7	0.0	0.2	
20	Duck Island.....	41 16	72 28	4 50	Willels Point.....	81	-0 28	-0 56	-2.7	0.0	0.4	
21	Falkner Island Light.....	41 13	72 39	4 51	Willels Point.....	81	-0 16	-0 46	-1.8	0.0	0.7	
22	Money Island, Thimble Islands.....	41 15	72 45	4 51	Willels Point.....	81	-0 14	-0 44	-1.6	0.0	0.7	
23	Branford Harbor.....	41 16	72 49	4 51	Willels Point.....	81	-0 11	-0 40	-1.3	0.0	0.8	
24	Southwest Ledge Light.....	41 14	72 55	4 52	Willels Point.....	81	-0 11	-0 35	-1.0	0.0	0.8	
25	New Haven.....	41 18	72 55	4 52	Willels Point.....	81	-0 04	-0 31	-1.2	0.0	0.8	
26	Milford Roads.....	41 12	73 02	4 52	Willels Point.....	81	-0 10	-0 31	-0.6	0.0	0.8	
27	Bridgeport.....	41 10	73 11	4 53	Willels Point.....	81	-0 02	-0 20	0.0	0.0	0.9	
28	Black Rock Harbor Light.....	41 09	73 13	4 53	Willels Point.....	81	-0 06	-0 24	-0.3	0.0	0.9	
29	Saugatuck, Saugatuck River.....	41 06	73 21	4 53	Willels Point.....	81	-0 05	-0 21	-0.2	0.0	1.0	
30	Westport, Saugatuck River.....	41 09	73 22	4 53	Willels Point.....	81	+0 08	-0 10	-0.1	0.0	0.9	
31	South Norwalk.....	41 06	73 25	4 54	Willels Point.....	81	-0 04	-0 20	-0.2	0.0	0.8	
32	Greens Ledge Light.....	41 03	73 27	4 54	Willels Point.....	81	-0 04	-0 22	+0.1	0.0	1.0	
33	Stamford.....	41 02	73 33	4 54	Willels Point.....	81	-0 03	-0 21	+0.1	0.0	1.0	
34	Greenwich.....	41 02	73 35	4 54	Willels Point.....	81	-0 02	-0 21	+0.2	0.0	1.2	
35	Great Captain Island Light.....	40 59	73 37	4 54	Willels Point.....	81	-0 03	-0 21	+0.1	0.0	1.2	
NEW YORK.												
Long Island Sound, north side.												
36	Port Chester.....	41 00	73 40	4 55	Willels Point.....	81	0 00	-0 17	+0.1	0.0	1.1	
37	Mamaroneck.....	40 56	73 44	4 55	Willels Point.....	81	0 00	-0 16	+0.1	0.0	1.1	
38	New Rochelle.....	40 54	73 46	4 55	Willels Point.....	81	+0 04	-0 12	+0.4	0.0	1.0	
39	City Island.....	40 51	73 47	4 55	Willels Point.....	81	0 00	-0 08	0.0	0.0	1.0	
40	Throgs Neck.....	40 48	73 47	4 55	Willels Point.....	81	0 00	0 00	0.0	0.0	1.0	
East River.												
41	Whitestone Point.....	40 48	73 49	4 55	Willels Point.....	81	+0 09	+0 08	0.0	0.0	1.0	
42	College Point.....	40 48	73 51	4 55	Willels Point.....	81	+0 20	+0 16	-0.1	0.0	0.9	
43	Flushing, Flushing Bay.....	40 46	73 51	4 55	Willels Point.....	81	+0 31	+0 33	-0.5	0.0	0.8	
44	Hunts Point.....	40 48	73 52	4 55	Willels Point.....	81	+0 23	+0 18	-0.1	0.0	0.9	
45	North Brother Light.....	40 48	73 54	4 56	Willels Point.....	81	+0 22	+0 15	-0.3	0.0	0.9	
46	Lawrence Point.....	40 47	73 55	4 56	Willels Point.....	81	+0 16	+0 07	-0.6	0.0	0.8	
47	Polhemus Dock.....	40 47	73 55	4 56	Willels Point.....	81	+0 14	0 00	-0.8	0.0	0.8	
48	Pot Cove, Astoria.....	40 47	73 56	4 56	Willels Point.....	81	-0 03	-0 21	-1.2	0.0	0.7	
49	Halletts Point Light, Hell Gate.....	40 47	73 56	4 56	New York.....	85	+2 41	+2 25	+1.1	0.0	1.0	
50	Hell Gate Ferry, Astoria.....	40 46	73 56	4 56	New York.....	85	+2 06	+1 41	+0.7	0.0	1.0	
51	Blackwells Island Light.....	40 46	73 56	4 56	New York.....	85	+2 01	+1 38	+0.6	0.0	1.0	
52	East 41st street, New York City.....	40 45	73 58	4 56	New York.....	85	+1 26	+1 15	-0.3	0.0	0.9	
53	East 27th street, Bellevue Hospital.....	40 44	73 58	4 56	New York.....	85	+1 16	+1 07	-0.4	0.0	0.9	
54	Brooklyn Navy-Yard.....	40 42	73 59	4 56	New York.....	85	+0 40	+0 37	-0.4	0.0	0.9	
55	Brooklyn Bridge.....	40 42	74 00	4 56	New York.....	85	+0 20	+0 23	-0.2	0.0	0.9	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	7 32	1 17	7 32a	1 08b	3.1	3.8	2.3	3.3	0.7	0.1	.....	0.7	1.6	1.5	12.0
2	7 33	1 25	7 33a	1 11b	3.0	3.7	2.2	3.2	0.7	0.1	.....	0.7	1.5	1.5	11.5
3	8 49	2 38	8 45a	2 58b	2.7	3.2	2.1	3.1	0.9	0.2	.....	0.9	1.4	1.4	11.0
4	8 59	2 52	8 54a	3 12b	2.7	3.2	2.2	3.1	0.9	0.2	.....	0.9	1.4	1.5	11.0
5	9 05	3 00	9 00a	3 20b	2.6	3.0	2.0	2.9	0.9	0.2	.....	0.9	1.3	1.4	11.0
6	9 26	3 30	9 21a	3 51b	2.5	2.9	2.0	2.8	0.9	0.2	8 31	0.9	1.2	1.3	11.0
7	9 30	3 42	9 27a	4 01b	2.5	2.9	2.0	2.8	0.9	0.2	8 27	0.9	1.3	1.3	11.0
8	10 07	4 17	10 03a	4 37b	3.1	3.7	2.5	3.5	0.9	0.2	.....	0.9	1.6	1.7	11.0
9	9 39	3 33	9 34a	3 53b	2.7	3.2	2.2	3.1	0.9	0.2	.....	0.9	1.4	1.5	11.0
10	10 29	4 11	10 25a	4 30b	3.6	4.3	2.9	4.1	0.9	0.3	.....	0.9	1.8	1.9	11.0
11	10 47	4 38	10 43a	4 58b	3.2	3.8	2.6	3.7	0.9	0.3	.....	0.9	1.6	1.7	11.0
12	11 12	5 19	11 08a	5 40b	2.9	3.4	2.3	3.3	0.9	0.2	.....	0.9	1.4	1.5	11.0
13	11 40	5 58	11 36a	6 20b	2.5	2.9	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	11.0
14	12 03	6 28	11 58a	6 50b	2.2	2.6	1.8	2.6	0.8	0.2	.....	0.8	1.1	1.2	11.0
15	0 13	7 29	0 08b	7 51b	1.9	2.2	1.5	2.2	0.8	0.2	.....	0.8	1.0	1.1	11.0
16	1 03	8 30	0 57b	8 52b	1.5	1.7	1.2	1.7	0.7	0.1	.....	0.7	0.7	0.7	11.0
17	1 53	9 40	1 46b	10 02b	1.1	1.3	0.9	1.3	0.6	0.1	.....	0.6	0.6	0.6	11.0
18	2 29	10 34	2 22b	10 57b	0.9	1.1	0.7	1.0	0.5	0.1	.....	0.5	0.4	0.4	11.0
19	2 50	11 05	2 42b	11 28b	0.8	0.9	0.6	0.9	0.5	0.1	.....	0.5	0.4	0.4	11.0
20	10 46	4 31	10 42a	4 39b	4.5	5.3	3.6	5.1	0.9	0.4	.....	1.0	2.2	2.4	11.0
21	10 57	4 40	10 53a	4 48b	5.4	6.3	4.3	6.1	1.0	0.4	.....	1.1	2.7	2.9	10.5
22	10 59	4 42	10 55a	4 50b	5.6	6.7	4.5	6.4	1.0	0.5	.....	1.1	2.8	3.0	10.5
23	11 02	4 46	10 58a	4 54b	5.9	7.0	4.7	6.7	1.0	0.5	.....	1.1	3.0	3.2	10.5
24	11 01	4 50	10 57a	4 58b	6.2	7.3	5.0	7.1	1.0	0.5	.....	1.1	3.1	3.3	10.5
25	11 08	4 54	11 04a	5 02b	6.0	7.1	4.8	6.8	1.0	0.5	.....	1.1	3.0	3.2	10.5
26	11 02	4 54	10 58a	5 02b	6.6	7.7	5.2	7.5	1.0	0.5	.....	1.1	3.3	3.5	10.5
27	11 09	5 04	11 05a	5 12b	7.2	8.5	5.8	8.2	1.0	0.6	.....	1.1	3.6	3.9	10.5
28	11 05	5 00	11 01a	5 08b	6.9	8.2	5.5	7.9	1.0	0.6	.....	1.1	3.5	3.8	10.5
29	11 06	5 03	11 02a	5 10b	7.0	8.3	5.6	8.0	1.0	0.6	.....	1.1	3.5	3.8	10.0
30	11 19	5 14	11 16a	5 21b	7.1	8.4	5.7	8.1	1.0	0.6	.....	1.1	3.6	3.9	10.0
31	11 06	5 03	11 02a	5 11b	7.0	8.3	5.6	8.0	1.0	0.6	.....	1.1	3.5	3.8	10.0
32	11 06	5 01	11 02a	5 09b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	3.9	10.0
33	11 07	5 02	11 03a	5 08b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	3.9	10.0
34	11 08	5 02	11 04a	5 10b	7.4	8.7	5.9	8.4	1.0	0.6	.....	1.1	3.7	4.0	10.0
35	11 07	5 02	11 03a	5 10b	7.3	8.6	5.9	8.3	1.0	0.6	.....	1.1	3.7	4.0	10.0
36	11 09	5 05	11 06a	5 13b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.7	4.0	10.0
37	11 09	5 06	11 05a	5 14b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	3.9	10.0
38	11 13	5 10	11 09a	5 18b	7.6	8.9	6.0	8.6	1.0	0.6	.....	1.1	3.8	4.1	10.0
39	11 09	5 14	11 05a	5 22b	7.2	8.5	5.7	8.3	1.0	0.6	.....	1.1	3.6	3.9	10.0
40	11 09	5 22	11 05a	5 30b	7.2	8.5	5.7	8.2	1.0	0.6	.....	1.1	3.6	3.9	10.0
41	11 18	5 30	11 14a	5 38b	7.2	8.5	5.6	8.1	1.0	0.5	.....	1.1	3.6	3.8	9.5
42	11 29	5 38	11 25a	5 46b	7.1	8.5	5.6	8.1	1.0	0.5	.....	1.1	3.6	3.8	9.5
43	11 40	5 55	11 36a	6 04b	6.7	8.0	5.2	7.6	1.0	0.5	.....	1.1	3.4	3.6	9.5
44	11 32	5 40	11 28a	5 49b	7.1	8.4	5.5	8.0	1.0	0.5	.....	1.1	3.5	3.7	9.5
45	11 30	5 36	11 26a	5 46b	6.9	8.2	5.4	7.8	1.0	0.5	.....	1.1	3.4	3.6	9.5
46	11 24	5 28	11 20a	5 38b	6.6	7.9	5.1	7.5	1.0	0.5	.....	1.1	3.3	3.5	9.5
47	11 22	5 21	11 18a	5 31b	6.4	7.6	5.0	7.2	1.0	0.4	.....	1.1	3.2	3.4	9.5
48	11 05	5 00	11 01a	5 10b	6.0	7.2	4.7	6.8	1.0	0.4	.....	1.1	3.0	3.2	9.5
49	10 45	4 30	10 42a	4 41b	5.5	6.6	4.3	6.2	1.0	0.4	.....	1.1	2.8	3.0	9.5
50	10 10	3 46	10 07a	3 57b	5.1	6.1	4.0	5.8	1.0	0.4	.....	1.1	2.6	2.8	9.5
51	10 05	3 43	10 02a	3 54b	5.0	6.0	3.9	5.7	1.0	0.4	.....	1.1	2.5	2.7	9.5
52	9 30	3 20	9 27a	3 32b	4.1	4.9	3.2	4.7	1.0	0.3	.....	1.0	2.1	2.2	9.5
53	9 20	3 12	9 17a	3 24b	4.0	4.8	3.1	4.5	1.0	0.3	.....	1.0	2.0	2.1	9.5
54	8 44	2 42	8 41a	2 54b	4.0	4.7	3.1	4.5	1.0	0.3	.....	1.0	2.0	2.1	9.5
55	8 24	2 28	8 21a	2 41b	4.2	5.0	3.3	4.7	1.0	0.3	.....	1.0	2.1	2.2	9.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Ratio of range.
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
NEW YORK—continued.											
Harlem River.		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	East 110th street, New York City...	40 47	73 56	4 56	New York	85	+2 11	+1 45	+1.6	0.0	1.2
2	High Bridge.....	40 51	73 56	4 56	New York	85	+2 21	+2 05	+1.6	0.0	1.3
3	Kings Bridge.....	40 52	73 55	4 56	New York	85	+0 56	+1 00	-0.1	0.0	0.9
Long Island Sound, south side.											
4	WILLETS POINT.....	40 48	73 47	4 55	Willels Point	81	0 00	0 00	0.0	0.0	1.0
5	Hewletts Point.....	40 50	73 45	4 55	Willels Point	81	0 00	-0 08	0.0	0.0	1.0
6	Execution Rocks Light.....	40 53	73 44	4 55	Willels Point	81	0 00	-0 13	+0.1	0.0	1.0
7	Glenor Mosquito Cove, Hempstead B.	40 51	73 39	4 55	Willels Point	81	0 00	-0 16	0.0	0.0	1.0
8	Oyster Bay	40 52	73 31	4 54	Willels Point	81	-0 03	-0 17	+0.1	0.0	1.0
9	Cold Spring Harbor, Oyster Bay.....	40 52	73 28	4 54	Willels Point	81	-0 02	-0 16	+0.4	0.0	1.0
10	Huntington Harbor	40 54	73 26	4 54	Willels Point	81	-0 04	-0 24	+0.4	0.0	1.0
11	Northport Harbor	40 54	73 21	4 53	Willels Point	81	-0 04	-0 24	+0.1	0.0	1.0
12	Nissequogue River	40 54	73 13	4 53	Willels Point	81	-0 06	-0 25	-0.2	0.0	0.5
13	Stony Brook	40 55	73 09	4 53	Willels Point	81	+0 14	-0 04	-1.1	0.0	0.5
14	Stratford Shoal Light	41 04	73 06	4 52	Willels Point	81	-0 09	-0 29	-0.6	0.0	0.2
15	Port Jefferson Entrance	40 58	73 05	4 52	Willels Point	81	-0 06	-0 25	-1.0	0.0	0.2
16	Port Jefferson	40 57	73 04	4 52	Willels Point	81	+0 29	+0 21	-0.6	0.0	0.2
17	Setauket	40 56	73 06	4 52	Willels Point	81	+0 58	+0 59	-0.7	0.0	0.5
18	Conscience Bay	40 57	73 07	4 52	Willels Point	81	+1 08	+1 35	-2.2	0.0	0.5
19	Herod Point.....	40 57	72 50	4 51	Willels Point	81	-0 11	-0 36	-1.3	0.0	0.5
20	Jacob Point	40 59	72 39	4 51	Willels Point	81	-0 13	-0 42	-2.3	0.0	0.5
21	Duck Pond Point.....	41 02	72 31	4 50	Willels Point	81	-0 17	-0 48	-2.7	0.0	0.5
22	Horton Point Light	41 05	72 27	4 50	New London	77	+1 27	+1 05	+1.5	0.0	1.0
23	Truman Beach	41 08	72 19	4 49	New London	77	+1 05	+0 48	+0.9	0.0	1.0
24	Orient Point.....	41 10	72 14	4 49	New London	77	+0 35	+0 12	+0.2	0.0	1.0
25	Little Gull Island Light.....	41 12	72 06	4 48	New London	77	0 00	-0 26	0.0	0.0	1.0
26	West Harbor, Fishers Island	41 16	72 00	4 48	New London	77	+0 05	-0 03	0.0	0.0	1.0
27	Gardiners Point Light.....	41 09	72 09	4 49	New London	77	+0 25	+0 06	+0.2	0.0	1.0
28	Orient Harbor	41 08	72 18	4 49	New London	77	+0 55	+0 33	0.0	0.0	1.0
29	Greenport	41 06	72 21	4 49	New London	77	+0 59	+0 43	-0.1	0.0	0.5
30	Southold Landing	41 04	72 25	4 50	New London	77	+1 48	+1 32	0.0	0.0	1.0
31	Cutchogue Harbor	41 00	72 27	4 50	New London	77	+2 01	+1 48	-0.2	0.0	0.5
32	Jamesport	40 56	72 34	4 50	New London	77	+2 47	+2 42	-0.1	0.0	0.5
33	Sag Harbor	41 00	72 17	4 49	New London	77	+1 05	+0 51	0.0	0.0	1.0
34	Cedar Island Light.....	41 02	72 16	4 49	New London	77	+0 42	+0 31	+0.1	0.0	1.0
35	Acabonack Harbor.....	41 01	72 08	4 49	New London	77	0 00	-0 08	+0.2	0.0	1.0
36	Napeague Harbor	41 00	72 03	4 48	New London	77	-0 11	-0 25	0.0	0.0	1.0
37	Fort Pond Bay	41 03	71 58	4 48	New London	77	-0 36	-0 50	-0.3	0.0	0.5
38	Montauk Point Light	41 04	71 51	4 47	New London	77	-1 07	-1 28	-0.5	0.0	0.5
Long Island, south side.											
39	Amagansett Life-Saving Station.....	40 58	72 07	4 48	New London	77	-1 16	-1 38	-0.3	0.0	0.5
40	Mecox Life-Saving Station	40 54	72 18	4 49	New London	77	-1 25	-1 44	-0.2	0.0	0.5
41	Southampton Life-Saving Station.....	40 52	72 23	4 50	New London	77	-1 30	-1 47	-0.1	0.0	0.5
42	Shinnecock Life-Saving Station.....	40 51	72 28	4 50	New London	77	-1 36	-1 50	0.0	0.0	1.0
43	Quogue Life-Saving Station	40 48	72 36	4 50	New London	77	-1 42	-1 54	+0.2	0.0	1.0
44	Moriches Life-Saving Station.....	40 46	72 43	4 51	New London	77	-1 47	-1 57	+0.4	0.0	1.0
45	Bellport Life-Saving Station.....	40 43	72 56	4 52	New London	77	-1 52	-2 01	+0.6	0.0	1.0
46	Bellport, Great South Bay	40 45	72 56	4 52	New London	77	+1 33	+1 24	-1.4	0.0	0.4
47	Patchogue, Great South Bay	40 45	73 01	4 52	New London	77	+1 16	+1 07	-1.5	0.0	1.0
48	Lone Hill Life-Saving Station	40 40	73 04	4 52	New London	77	-1 57	-2 04	+0.8	0.0	1.0
49	Fire Island Inlet, Great South Bay.....	40 38	73 14	4 53	New London	77	-2 02	-2 05	-0.5	0.0	0.5
50	Babylon, Great South Bay	40 41	73 19	4 53	New London	77	+0 29	+0 25	-1.3	0.0	0.5
51	Gilgo Inlet, Great South Bay.....	40 37	73 25	4 54	Sandy Hook	89	-0 12	-0 09	-1.1	0.0	0.5
52	Jones Inlet, Hempstead Bay	40 36	73 32	4 54	Sandy Hook	89	-0 07	-0 04	-0.9	0.0	0.5
53	E. Rockaway Inlet, Hempstead Bay.....	40 36	73 41	4 55	Sandy Hook	89	0 00	+0 01	-0.6	0.0	0.5
54	Barren Island, Rockaway Inlet	40 35	73 53	4 56	Sandy Hook	89	+0 07	+0 12	-0.4	0.0	0.5
55	Holland Landing, Jamaica Bay	40 35	73 49	4 55	Sandy Hook	89	+0 42	+0 32	-0.4	0.0	0.5
56	Norton Point, Jamaica Bay	40 38	73 45	4 55	Sandy Hook	89	+1 09	+1 20	-0.7	0.0	0.5
57	Canarwie, Jamaica Bay	40 38	73 53	4 56	Sandy Hook	89	+0 45	+0 48	-0.2	0.0	1.0
58	Coney Island	40 34	73 59	4 56	Sandy Hook	89	0 00	-0 12	0.0	0.0	1.0
Staten Island.											
59	Elm Tree Beacon.....	40 34	74 06	4 56	Sandy Hook.....	89	+0 03	+0 08	+0.2	0.0	1.0
60	Great Kills	40 32	74 08	4 57	Sandy Hook.....	89	+0 02	+0 06	+0.4	0.0	1.0
61	Princess Bay Light	40 30	74 13	4 57	Sandy Hook.....	89	+0 05	+0 09	+0.6	0.0	1.0
62	Great Beds Light	40 29	74 15	4 57	Sandy Hook.....	89	+0 07	+0 13	+0.6	0.0	1.0
63	Tottenville, Arthur Kill.....	40 31	74 15	4 57	Sandy Hook.....	89	+0 11	+0 22	+0.6	0.0	1.0

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
1	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
2	10 15	3 50	10 12a	4 08b	5.5	6.6	4.8	6.2	1.0	0.3	.....	1.0	2.8	2.9	9.5
3	10 25	4 10	10 22a	4 23b	6.0	7.2	4.6	6.7	1.0	0.3	.....	1.0	3.0	3.1	9.5
4	9 00	3 06	8 57a	3 18b	4.3	5.2	3.4	4.8	1.0	0.3	.....	1.0	2.2	2.3	9.5
5	11 09	5 22	11 06a	5 30b	7.2	8.5	5.7	8.2	1.0	0.6	9 11	1.1	3.6	4.0	9.5
6	11 09	5 14	11 06a	5 22b	7.2	8.5	5.8	8.3	1.0	0.6	.....	1.1	3.6	4.0	9.5
7	11 09	5 09	11 06a	5 17b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	4.0	9.5
8	11 09	5 06	11 05a	5 14b	7.2	8.5	5.8	8.3	1.0	0.6	.....	1.1	3.6	4.0	10.0
9	11 07	5 06	11 08a	5 14b	7.3	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	4.0	10.0
10	11 08	5 07	11 04a	5 15b	7.6	9.0	6.1	8.7	1.0	0.6	.....	1.1	3.8	4.1	10.0
11	11 06	4 59	11 02a	5 07b	7.6	9.0	6.1	8.7	1.0	0.6	.....	1.1	3.8	4.1	10.0
12	11 07	5 00	11 08a	5 08b	7.8	8.6	5.8	8.3	1.0	0.6	.....	1.1	3.6	3.9	10.0
13	11 05	4 59	11 01a	5 07b	7.0	8.8	5.6	8.0	1.0	0.6	.....	1.1	3.5	3.8	10.0
14	11 25	5 20	11 21a	5 28b	6.1	7.2	4.9	7.0	1.0	0.5	.....	1.1	3.0	3.2	10.0
15	11 03	4 56	10 59a	5 06b	6.6	7.8	5.3	7.6	1.0	0.5	.....	1.1	3.3	3.5	10.0
16	11 06	5 00	11 02a	5 11b	6.2	7.3	5.0	7.1	1.0	0.5	.....	1.1	3.1	3.3	10.0
17	11 41	5 46	11 37a	5 58b	6.6	7.8	5.3	7.5	1.0	0.5	.....	1.1	3.3	3.5	10.0
18	12 10	6 24	12 06a	6 37b	6.5	7.6	5.2	7.4	1.0	0.5	.....	1.1	3.2	3.4	10.0
19	12 20	7 00	12 16a	7 14b	5.0	5.9	4.0	5.7	1.0	0.4	.....	1.1	2.5	2.7	10.0
20	11 02	4 50	10 58a	5 05b	5.9	7.0	4.7	6.7	1.0	0.5	.....	1.1	3.0	3.2	10.5
21	11 00	4 44	10 56a	5 00b	4.9	5.8	4.0	5.6	1.0	0.4	.....	1.1	2.5	2.7	10.5
22	10 57	4 39	10 53a	4 56b	4.5	5.3	3.6	5.1	0.9	0.4	.....	1.0	2.2	2.4	10.5
23	10 51	4 33	10 46a	4 50b	4.0	4.7	3.2	4.6	0.9	0.3	.....	0.9	2.0	2.1	10.5
24	10 30	4 17	10 15a	4 35b	3.4	4.0	2.7	3.8	0.9	0.3	.....	0.9	1.7	1.8	11.0
25	10 00	3 41	9 55a	4 00b	2.7	3.2	2.2	3.1	0.9	0.2	.....	0.9	1.4	1.5	11.0
26	9 26	3 04	9 21a	3 23b	2.5	3.0	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	11.0
27	9 31	3 27	9 26a	3 47b	2.5	3.0	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	11.0
28	9 50	3 35	9 45a	3 56b	2.7	3.2	2.2	3.1	0.9	0.2	.....	0.9	1.4	1.5	11.0
29	10 20	4 02	10 15a	4 22b	2.5	3.0	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	10.5
30	10 24	4 12	10 19a	4 32b	2.4	2.8	1.9	2.7	0.9	0.2	.....	0.9	1.2	1.3	10.5
31	11 12	5 00	11 07a	5 20b	2.5	3.0	2.0	2.9	0.9	0.2	.....	0.9	1.3	1.4	10.5
32	11 25	5 16	11 20a	5 38b	2.3	2.8	1.9	2.7	0.9	0.2	.....	0.9	1.2	1.3	10.5
33	12 11	6 10	12 06a	6 30b	2.4	2.8	1.9	2.7	0.9	0.2	.....	0.9	1.2	1.3	10.0
34	10 30	4 20	10 25a	4 40b	2.5	2.9	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	10.5
35	10 07	4 00	10 02a	4 20b	2.6	3.1	2.1	3.0	0.9	0.2	.....	0.9	1.3	1.4	10.5
36	9 25	3 21	9 20a	3 41b	2.7	3.1	2.1	3.0	0.9	0.2	.....	0.9	1.3	1.4	11.0
37	9 15	3 05	9 10a	3 25b	2.5	3.0	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	11.0
38	8 50	2 40	8 45a	3 00b	2.2	2.6	1.8	2.6	0.8	0.2	.....	0.8	1.1	1.2	11.0
39	8 20	2 08	8 15a	2 23b	2.0	2.4	1.6	2.3	0.8	0.2	.....	0.8	1.0	1.1	11.0
40	8 10	1 52	8 05a	2 12b	2.2	2.6	1.7	2.5	0.8	0.2	.....	0.8	1.1	1.2	11.0
41	8 00	1 45	7 55a	2 05b	2.3	2.8	1.8	2.7	0.8	0.2	.....	0.8	1.2	1.3	10.5
42	7 54	1 41	7 49a	2 01b	2.4	2.9	1.9	2.8	0.8	0.2	.....	0.8	1.2	1.3	10.5
43	7 48	1 38	7 43a	1 57b	2.5	3.0	2.0	2.8	0.9	0.2	.....	0.9	1.2	1.3	10.5
44	7 42	1 34	7 38a	1 53b	2.7	3.2	2.1	3.0	0.9	0.2	.....	0.9	1.3	1.4	10.5
45	7 36	1 30	7 32a	1 48b	2.9	3.4	2.3	3.2	0.9	0.2	.....	0.9	1.4	1.5	10.0
46	7 30	1 25	7 26a	1 43b	3.1	3.6	2.4	3.4	0.9	0.2	.....	0.9	1.5	1.6	10.0
47	10 55	4 50	10 48a	5 15b	1.1	1.4	0.9	1.3	0.6	0.1	.....	0.6	0.6	0.6	10.0
48	10 38	4 33	10 30a	4 53b	1.0	1.1	0.8	1.1	0.6	0.1	.....	0.6	0.5	0.5	10.0
49	7 25	1 22	7 21a	1 40b	3.3	3.9	2.6	3.7	0.9	0.2	.....	0.9	1.6	1.7	10.0
50	7 19	1 20	7 16a	1 37b	2.0	2.3	1.5	2.2	0.8	0.2	.....	0.8	1.0	1.1	10.0
51	9 50	3 50	9 44a	4 10b	1.2	1.4	0.9	1.3	0.6	0.1	.....	0.6	0.6	0.6	10.0
52	7 25	1 20	7 27a	1 34b	3.6	4.2	2.8	4.0	1.0	0.2	.....	1.0	1.8	1.9	9.5
53	7 30	1 25	7 22a	1 39b	3.8	4.5	3.0	4.2	1.0	0.2	.....	1.0	1.9	2.0	9.5
54	7 36	1 29	7 33a	1 43b	4.1	4.9	3.2	4.6	1.0	0.2	.....	1.0	2.0	2.1	9.5
55	7 42	1 15	7 39a	1 29b	4.3	5.2	3.4	4.8	1.0	0.2	.....	1.0	2.2	2.3	9.5
56	8 18	2 00	8 15a	2 14b	4.8	5.1	3.4	4.8	1.0	0.2	.....	1.0	2.2	2.3	9.5
57	8 45	2 48	8 42a	3 02b	4.0	4.8	3.2	4.4	1.0	0.2	.....	1.0	2.0	2.1	9.5
58	8 20	2 15	8 17a	2 29b	4.5	5.4	3.6	5.0	1.0	0.2	.....	1.0	2.3	2.4	9.5
59	7 35	1 15	7 32a	1 29b	4.7	5.5	3.7	5.1	1.1	0.2	.....	1.1	2.3	2.4	9.5
60	7 38	1 35	7 35a	1 49b	4.9	5.9	3.8	5.4	1.0	0.3	.....	1.0	2.4	2.5	9.0
61	7 36	1 32	7 33a	1 46b	5.1	6.1	4.0	5.6	1.0	0.3	.....	1.0	2.6	2.7	9.0
62	7 39	1 35	7 36a	1 49b	5.3	6.4	4.1	5.8	1.0	0.3	.....	1.0	2.6	2.7	9.0
63	7 41	1 39	7 38a	1 53b	5.3	6.4	4.1	5.8	1.0	0.3	.....	1.0	2.6	2.7	9.0
64	7 45	1 48	7 42a	2 02b	5.3	6.4	4.1	5.8	1.0	0.3	.....	1.0	2.6	2.7	9.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.	
NORTH AMERICA (EAST COAST)—Continued.											
NEW YORK—continued.											
Staten Island—Continued.		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.	
1	Rossville, Arthur Kill	40 33	74 13	4 57	Sandy Hook	89	+ 0 36	+ 0 48	+0.6	0.0	1.5
2	Chelsea, Arthur Kill	40 36	74 12	4 57	New York	85	+ 0 19	+ 0 26	+0.6	0.0	1.1
3	Port Richmond, Kill van Kull	40 38	74 09	4 57	New York	85	+ 0 08	+ 0 11	+0.1	0.0	1.2
4	New Brighton, Kill van Kull	40 39	74 06	4 56	New York	85	+ 0 08	+ 0 15	+0.1	0.0	1.2
5	Fort Wadsworth Light, The Narrows	40 36	74 03	4 56	New York	85	+ 0 21	+ 0 25	+0.2	0.0	1.2
New York Harbor.											
6	Bath, Gravesend Bay	40 36	74 00	4 56	New York	85	+ 0 32	+ 0 35	+0.4	0.0	1.0
7	Fort Hamilton, The Narrows	40 36	74 02	4 56	New York	85	+ 0 21	+ 0 25	+0.2	0.0	1.0
8	Bay Ridge	40 38	74 02	4 56	New York	85	+ 0 15	+ 0 18	+0.1	0.0	1.0
9	Gowanus Bay	40 40	74 01	4 56	New York	85	+ 0 08	+ 0 09	0.0	0.0	1.0
10	New York, Governors Island	40 42	74 01	4 56	New York	85	0 00	0 00	0.0	0.0	1.0
NEW YORK AND NEW JERSEY.											
Hudson River.											
11	New York, The Battery	40 42	74 01	4 56	New York	85	+ 0 02	+ 0 02	0.0	0.0	1.0
12	Jersey City, Penn. R. R. Ferry, N. J.	40 43	74 02	4 56	New York	85	+ 0 05	+ 0 05	0.0	0.0	0.8
13	New York, Desbrosses st.	40 43	74 01	4 56	New York	85	+ 0 06	+ 0 06	0.0	0.0	0.8
14	Hoboken, 14th st., N. J.	40 45	74 02	4 56	New York	85	+ 0 12	+ 0 12	-0.1	0.0	0.8
15	Weehawken, Day Point, N. J.	40 46	74 01	4 56	New York	85	+ 0 18	+ 0 18	-0.2	0.0	0.8
16	New York, W. 72d st.	40 47	73 59	4 56	New York	85	+ 0 20	+ 0 20	-0.2	0.0	0.8
17	General Grant's tomb, 122d st.	40 49	73 58	4 56	New York	85	+ 0 28	+ 0 28	-0.2	0.0	0.8
18	Manhattan Iron Works, 143d st.	40 50	73 57	4 56	New York	85	+ 0 31	+ 0 31	-0.3	0.0	0.8
19	Fort Washington Point	40 51	73 57	4 56	New York	85	+ 0 36	+ 0 37	-0.3	0.0	0.8
20	Spuyten Duyvil	40 53	73 55	4 56	New York	85	+ 0 45	+ 0 46	-0.4	0.0	0.8
21	Yonkers	40 56	73 54	4 56	New York	85	+ 0 56	+ 1 00	-0.5	0.0	0.8
22	Dobbs Ferry	41 01	73 53	4 56	New York	85	+ 1 17	+ 1 21	-0.7	0.0	0.8
23	Tarrytown	41 05	73 52	4 55	New York	85	+ 1 32	+ 1 39	-0.8	0.0	0.8
24	Ossining	41 10	73 52	4 55	New York	85	+ 1 50	+ 2 05	-1.0	0.0	0.8
25	Haverstraw	41 12	73 58	4 56	New York	85	+ 2 02	+ 2 21	-1.1	0.0	0.8
26	Peekskill	41 17	73 56	4 56	New York	85	+ 2 24	+ 2 51	-1.3	0.0	0.8
27	West Point	41 24	73 57	4 56	New York	85	+ 3 02	+ 3 31	-1.6	0.0	0.6
28	Newburgh	41 30	74 00	4 56	New York	85	+ 3 39	+ 4 01	-1.7	0.0	0.6
29	New Hamburg	41 35	73 57	4 56	New York	85	+ 4 07	+ 4 22	-1.5	0.0	0.6
30	Poughkeepsie	41 42	73 56	4 56	New York	85	+ 4 36	+ 4 50	-1.3	0.0	0.7
31	Hyde Park	41 47	73 57	4 56	New York	85	+ 4 51	+ 5 09	-1.1	0.0	0.7
32	Rondout	41 55	73 58	4 56	New York	85	+ 5 21	+ 5 35	-0.7	0.0	0.8
33	Tivoli	42 04	73 55	4 56	New York	85	+ 5 56	+ 6 06	-0.3	0.0	0.8
34	Catskill	42 13	73 51	4 55	New York	85	+ 6 40	+ 6 54	-0.2	0.0	0.8
35	Hudson	42 15	73 48	4 55	New York	85	+ 6 55	+ 7 10	-0.2	0.0	0.8
36	Coxsackie	42 21	73 48	4 55	New York	85	+ 7 27	+ 7 56	-0.5	0.0	0.8
37	New Baltimore	42 27	73 47	4 55	New York	85	+ 8 11	+ 8 54	-1.1	0.0	0.6
38	Castleton	42 31	73 45	4 55	New York	85	+ 8 58	+ 9 50	-1.7	0.0	0.5
39	Albany	42 37	73 45	4 55	New York	85	+ 9 54	+11 05	-2.0	0.0	0.5
40	Troy	42 44	73 42	4 55	New York	85	+11 25	+13 04	-2.1	0.0	0.5
NEW JERSEY—continued.											
Newark Bay.											
41	Shooters Island, N. Y.	40 39	74 10	4 57	New York	85	+ 0 17	+ 0 24	+0.2	0.0	1.0
42	Elizabethport	40 39	74 11	4 57	New York	85	+ 0 23	+ 0 34	+0.2	0.0	1.0
43	Passaic Light	40 42	74 08	4 57	New York	85	+ 0 38	+ 0 55	+0.3	0.0	1.0
44	Newark, Passaic River	40 41	74 10	4 57	New York	85	+ 0 58	+ 1 09	+0.6	0.0	0.7
45	Passaic, Passaic River	40 52	74 07	4 56	New York	85	+ 1 41	+ 2 05	-1.1	0.0	0.7
46	Little Ferry, Hackensack River	40 51	74 02	4 56	New York	85	+ 1 26	+ 1 48	+0.8	0.0	1.0
47	Hackensack, Hackensack River	40 53	74 02	4 56	New York	85	+ 1 36	+ 2 00	+0.8	0.0	1.0
Raritan Bay, etc.											
48	New Brunswick	40 29	74 26	4 58	Sandy Hook	89	+ 0 49	+ 1 33	+1.3	0.0	1.5
49	South Amboy	40 29	74 16	4 57	Sandy Hook	89	+ 0 08	+ 0 16	+0.6	0.0	1.2
50	Keyport	40 27	74 12	4 57	Sandy Hook	89	+ 0 05	+ 0 14	+0.6	0.0	1.0
51	Port Monmouth	40 26	74 05	4 56	Sandy Hook	89	0 00	+ 0 04	+0.1	0.0	1.0
52	SANDY HOOK, The Horseshoe	40 27	74 00	4 56	Sandy Hook	89	0 00	0 00	0.0	0.0	1.0

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	8 10	2 14	8 07a	2 27b	5.3	6.3	4.1	5.8	1.0	0.3	.....	1.0	2.6	2.7	9.0
2	8 22	2 30	8 19a	2 43b	5.0	6.0	3.9	5.5	1.0	0.3	.....	1.0	2.5	2.6	9.0
3	8 11	2 15	8 08a	2 28b	4.5	5.4	3.5	5.0	1.0	0.3	.....	1.0	2.3	2.4	9.0
4	7 56	1 50	7 53a	2 03b	4.5	5.4	3.5	5.0	1.0	0.3	.....	1.0	2.3	2.4	9.0
5	7 43	1 40	7 40a	1 53b	4.6	5.6	3.6	5.1	1.0	0.3	.....	1.0	2.3	2.4	9.0
6	7 32	1 30	7 29a	1 43b	4.8	5.7	3.7	5.2	1.0	0.3	.....	1.0	2.4	2.5	9.0
7	7 43	1 40	7 40a	1 58b	4.6	5.6	3.6	5.1	1.0	0.3	7 02	1.0	2.3	2.4	9.0
8	7 49	1 47	7 46a	2 00b	4.5	5.4	3.5	6.0	1.0	0.3	.....	1.0	2.3	2.4	9.5
9	7 56	1 56	7 53a	2 09b	4.4	5.3	3.5	4.9	1.0	0.3	.....	1.0	2.2	2.3	9.5
10	8 04	2 06	8 01a	2 18b	4.4	5.3	3.4	4.9	1.0	0.3	7 12	1.0	2.2	2.3	9.5
11	8 06	2 07	8 03a	2 20b	4.4	5.3	3.4	4.9	1.0	0.3	.....	1.0	2.2	2.3	9.5
12	8 09	2 10	8 06a	2 23b	4.4	5.2	3.4	4.8	1.0	0.3	.....	1.0	2.2	2.3	9.5
13	8 10	2 11	8 07a	2 24b	4.4	5.2	3.4	4.8	1.0	0.3	.....	1.0	2.2	2.3	9.5
14	8 16	2 17	8 13a	2 30b	4.3	5.2	3.4	4.8	1.0	0.3	.....	1.0	2.2	2.3	9.5
15	8 22	2 23	8 19a	2 36b	4.2	5.1	3.3	4.7	1.0	0.3	.....	1.0	2.1	2.2	9.5
16	8 24	2 25	8 21a	2 38b	4.2	5.1	3.3	4.7	1.0	0.3	.....	1.0	2.1	2.2	9.5
17	8 32	2 33	8 29a	2 46b	4.2	5.0	3.2	4.6	1.0	0.2	.....	1.0	2.1	2.2	9.5
18	8 35	2 36	8 32a	2 49b	4.1	5.0	3.2	4.6	1.0	0.2	.....	1.0	2.1	2.2	9.5
19	8 40	2 42	8 37a	2 55b	4.1	4.9	3.2	4.5	0.9	0.2	.....	1.0	2.0	2.2	9.5
20	8 49	2 51	8 46a	3 04b	4.0	4.8	3.1	4.5	0.9	0.2	.....	1.0	2.0	2.1	9.5
21	9 00	3 05	8 57a	3 18b	3.9	4.7	3.0	4.3	0.9	0.2	.....	0.9	2.0	2.1	9.5
22	9 21	3 26	9 18a	3 39b	3.7	4.5	2.9	4.1	0.9	0.2	.....	0.9	1.9	2.0	10.0
23	9 37	3 45	9 34a	3 58b	3.6	4.3	2.8	4.0	0.8	0.2	.....	0.9	1.8	1.9	10.0
24	9 55	4 11	9 52a	4 24b	3.4	4.1	2.7	3.8	0.8	0.2	.....	0.8	1.7	1.8	10.0
25	10 06	4 26	10 03a	4 39b	3.3	4.0	2.6	3.7	0.8	0.2	.....	0.8	1.7	1.8	9.5
26	10 28	4 56	10 25a	5 09b	3.1	3.7	2.4	3.4	0.7	0.2	.....	0.7	1.6	1.6	9.5
27	11 06	5 36	11 03a	5 49b	2.8	3.3	2.2	3.1	0.6	0.2	.....	0.7	1.4	1.5	9.5
28	11 43	6 06	11 40a	6 19b	2.7	3.3	2.1	3.0	0.6	0.2	.....	0.6	1.4	1.4	9.5
29	12 11	6 27	12 08a	6 40b	2.9	3.4	2.2	3.2	0.7	0.2	.....	0.7	1.4	1.5	9.5
30	0 15	6 55	0 12b	7 06b	3.1	3.7	2.4	3.5	0.7	0.2	.....	0.7	1.6	1.7	9.5
31	0 30	7 14	0 27b	7 27b	3.3	4.0	2.6	3.7	0.8	0.2	.....	0.8	1.7	1.8	10.0
32	1 00	7 40	0 57b	7 53b	3.7	4.4	2.9	4.1	0.8	0.2	.....	0.9	1.8	1.9	10.0
33	1 35	8 11	1 32b	8 24b	4.1	4.9	3.2	4.6	0.9	0.2	.....	1.0	2.0	2.2	10.0
34	2 20	9 00	2 17b	9 13b	4.2	5.1	3.3	4.7	1.0	0.3	.....	1.0	2.1	2.2	10.5
35	2 35	9 16	2 32b	9 29b	4.2	5.0	3.3	4.7	1.0	0.3	.....	1.0	2.1	2.2	11.0
36	3 07	10 02	3 04b	10 15b	3.9	4.7	3.1	4.4	0.9	0.2	.....	0.9	2.0	2.1	11.0
37	3 51	11 00	3 48b	11 13b	3.3	3.9	2.5	3.6	0.8	0.2	.....	0.8	1.6	1.7	11.0
38	4 38	11 56	4 35b	12 09b	2.7	3.2	2.1	3.0	0.6	0.2	.....	0.6	1.3	1.4	11.0
39	5 34	0 46	5 31b	0 59a	2.4	2.9	1.9	2.7	0.6	0.1	.....	0.6	1.2	1.3	11.5
40	7 05	2 45	7 02b	2 58a	2.3	2.8	1.8	2.6	0.5	0.1	.....	0.6	1.2	1.2	11.5
41	8 20	2 28	8 17a	2 41b	4.6	5.5	3.6	5.1	1.0	0.3	.....	1.0	2.3	2.4	9.0
42	8 26	2 38	8 23a	2 51b	4.6	5.5	3.6	5.2	1.0	0.3	.....	1.0	2.3	2.4	9.0
43	8 41	2 39	8 38a	2 52b	4.7	5.7	3.7	5.3	1.0	0.3	.....	1.0	2.4	2.5	9.0
44	9 01	3 13	8 58a	3 26b	5.0	6.0	3.9	5.6	1.0	0.3	.....	1.0	2.5	2.6	9.0
45	9 45	4 10	9 42a	4 23b	3.8	4.0	2.6	3.7	0.8	0.2	.....	0.8	1.6	1.7	9.5
46	9 30	3 53	9 27a	4 06b	5.2	6.3	4.1	5.9	1.0	0.3	.....	1.0	2.6	2.7	9.5
47	9 40	4 05	9 37a	4 18b	5.2	6.2	4.0	5.8	1.0	0.3	.....	1.0	2.6	2.7	9.5
48	8 22	2 58	8 19a	3 12b	6.0	7.2	4.8	6.5	1.1	0.2	.....	1.1	3.0	3.0	9.0
49	7 42	1 42	7 39a	1 56b	5.3	6.3	4.2	5.7	1.1	0.2	.....	1.1	2.6	2.6	9.0
50	7 39	1 40	7 36a	1 54b	5.3	6.3	4.2	5.7	1.1	0.2	.....	1.1	2.7	2.7	9.0
51	7 35	1 31	7 32a	1 45b	4.8	5.7	3.8	5.1	1.1	0.2	.....	1.1	2.4	2.4	9.0
52	7 35	1 27	7 32a	1 41b	4.7	5.6	3.7	5.0	1.1	0.2	6 51	1.0	2.3	2.3	9.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Range of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.	
NORTH AMERICA (EAST COAST)—Continued.											
NEW JERSEY—continued.											
Outer coast.											
		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		C.	O.	A. M.			A. M.	A. M.	Feet.	Feet.	
1	Seabright.....	40 22	73 58	4 56	Sandy Hook.....	89	- 0 10	- 0 10	-0.3	0.0	0.4
2	Long Branch.....	40 18	73 59	4 56	Sandy Hook.....	89	- 0 14	- 0 14	-0.4	0.0	0.4
3	Asbury Park.....	40 13	74 00	4 56	Sandy Hook.....	89	- 0 17	- 0 17	-0.6	0.0	0.4
4	Seagirt.....	40 08	74 02	4 56	Sandy Hook.....	89	- 0 15	- 0 14	-0.9	0.0	0.4
5	Barnegat Inlet.....	39 46	74 06	4 56	New London.....	77	- 1 28	- 1 39	-0.3	0.0	0.9
6	Barnegat Landing, Barnegat Bay.....	39 45	74 11	4 57	New London.....	77	-0 01	-0 07	-1.4	0.0	0.4
7	Cedar Creek Entrance, Barnegat B.....	39 52	74 08	4 57	New London.....	77	+0 35	+0 28	-1.5	0.0	0.5
8	Island Heights, Toms R., Barnegat B.....	39 56	74 09	4 57	New London.....	77	+1 45	+1 45	-1.7	0.0	0.5
9	Kettle Creek, Barnegat Bay.....	40 01	74 07	4 56	New London.....	77	+2 52	+2 53	-1.8	0.0	0.5
10	Little Egg Inlet.....	39 30	74 18	4 57	New London.....	77	-1 35	+1 49	+0.8	0.0	1.2
11	Millica R. Entrance, Great Bay.....	39 32	74 24	4 58	New London.....	77	-0 42	-0 30	+0.2	0.0	1.5
12	Long Point, Little Egg Harbor.....	39 36	74 16	4 57	New London.....	77	+0 16	+0 25	-0.1	0.0	0.8
13	Atlantic City.....	39 22	73 25	4 58	Sandy Hook.....	89	+0 06	+0 04	-0.8	0.0	0.6
14	Absecon Bay.....	39 24	74 29	4 58	Sandy Hook.....	89	+1 04	+1 15	-0.7	0.0	0.6
15	Great Egg Inlet.....	39 18	74 33	4 58	Sandy Hook.....	89	+0 03	0 00	-0.6	0.0	0.8
16	Corson Inlet.....	39 12	74 39	4 59	Sandy Hook.....	89	+0 03	-0 03	-0.5	0.0	0.8
17	Townsend Inlet.....	39 07	74 43	4 59	Sandy Hook.....	89	0 00	-0 06	-0.5	0.0	0.8
18	Hereford Inlet.....	39 01	74 47	4 59	Sandy Hook.....	89	-0 02	-0 09	-0.4	0.0	0.8
19	Sewells Point, Cold Spring Inlet.....	38 57	74 52	4 59	Sandy Hook.....	89	+0 05	0 00	-0.3	0.0	0.9
20	Cape May City.....	38 56	74 55	5 00	Sandy Hook.....	89	+0 19	+0 10	-0.1	0.0	0.9
NEW JERSEY, DELAWARE, AND PENNSYLVANIA.											
Delaware Bay.											
21	Cape May Light, N. J.....	38 56	74 58	5 00	Sandy Hook.....	89	+0 29	+0 17	0.0	0.0	1.0
22	Cape Henlopen, Del.....	38 48	75 05	5 00	Sandy Hook.....	89	+0 34	+0 23	-0.5	0.0	0.9
23	Lewes, Del.....	38 47	75 08	5 01	Sandy Hook.....	89	+0 38	+0 29	-0.3	0.0	0.8
24	Broadkill Creek Entrance, Del.....	38 50	75 13	5 01	Sandy Hook.....	89	+0 46	+0 41	-0.1	0.0	0.8
25	Mispillion Creek Light, Del.....	38 57	75 19	5 01	Sandy Hook.....	89	+1 08	+1 10	+0.5	0.0	1.1
26	Brandywine Shoal Light, Del.....	38 59	75 07	5 00	Sandy Hook.....	89	+0 59	+0 57	+0.4	0.0	1.0
27	Fourteen-Foot Bank Light, Del.....	39 03	75 11	5 01	Sandy Hook.....	89	+1 13	+1 15	+0.7	0.0	1.1
28	Marcy's Landing, N. J.....	39 02	74 56	5 00	Sandy Hook.....	89	+0 39	+0 31	+0.4	0.0	1.0
29	Maurice River Light, N. J.....	39 12	75 02	5 00	Sandy Hook.....	89	+1 16	+1 20	+1.1	0.0	1.2
30	Port Norris, Maurice River, N. J.....	39 14	75 02	5 00	Philadelphia.....	93	-4 46	-5 43	+0.3	0.0	1.8
31	Mauricetown, Maurice River, N. J.....	39 17	74 58	5 00	Philadelphia.....	93	-3 56	-4 33	-0.1	0.0	0.4
32	Millville, Maurice River, N. J.....	39 24	75 02	5 00	Philadelphia.....	93	-2 26	-2 45	-0.6	0.0	0.9
33	Egg Island Light, N. J.....	39 11	75 08	5 01	Philadelphia.....	93	-4 53	-6 00	+0.7	0.0	1.0
34	Cross Ledge Light, N. J.....	39 10	75 14	5 01	Philadelphia.....	93	-4 47	-5 52	+0.5	0.0	1.0
35	Murderkill Creek Entrance, Del.....	39 03	75 24	5 02	Philadelphia.....	93	-4 58	-6 07	+0.2	0.0	1.0
36	Frederica, Murderkill Creek, Del.....	39 01	75 26	5 02	Philadelphia.....	93	-3 59	-4 41	-2.6	0.0	0.5
37	Lebanon, St. Jones Creek, Del.....	39 06	75 28	5 02	Philadelphia.....	93	-3 54	-4 31	-2.8	0.0	0.6
38	Dover, St. Jones Creek, Del.....	39 09	75 30	5 02	Philadelphia.....	93	-2 54	-3 11	-4.3	0.0	0.9
39	Mahon River Light, Del.....	39 11	75 24	5 02	Philadelphia.....	93	-4 29	-5 29	+0.5	0.0	1.0
40	Fortescue Beach, N. J.....	39 14	75 10	5 01	Philadelphia.....	93	-4 41	-5 44	+0.7	0.0	1.0
41	Dona Landing, Dona River, Del.....	39 13	75 26	5 02	Philadelphia.....	93	-4 12	-4 58	-0.5	0.0	0.8
42	Leipsic River Entrance, Del.....	39 15	75 24	5 02	Philadelphia.....	93	-4 16	-5 12	+0.6	0.0	1.0
43	Leipsic, Leipsic River, Del.....	39 15	75 29	5 02	Philadelphia.....	93	-3 24	-3 46	-2.3	0.0	0.8
44	Ben Davis Point, N. J.....	39 17	75 17	5 01	Philadelphia.....	93	-4 21	-5 17	+0.6	0.0	1.0
45	Ship John Shoal Light, N. J.....	39 18	75 23	5 02	Philadelphia.....	93	-4 09	-5 03	+0.7	0.0	1.0
Delaware River.											
46	Cohansey Light, N. J.....	39 21	75 22	5 01	Philadelphia.....	93	-4 05	-4 57	+0.3	0.0	1.0
47	Greenwich, Cohansey Creek, N. J.....	39 23	75 19	5 01	Philadelphia.....	93	-3 35	-4 17	+0.6	0.0	1.0
48	Bridgeton, Cohansey Creek, N. J.....	39 26	75 14	5 01	Philadelphia.....	93	-2 35	-2 52	+1.2	0.0	1.0
49	Bombay Hook Point, Del.....	39 19	75 26	5 02	Philadelphia.....	93	-4 00	-4 51	+0.7	0.0	1.0
50	Bombay Hook Light, Del.....	39 22	75 31	5 02	Philadelphia.....	93	-3 44	-4 29	+0.7	0.0	1.0
51	Liston Point, Del.....	39 25	75 32	5 02	Philadelphia.....	93	-3 32	-4 13	+0.7	0.0	1.0
52	Stony Point, N. J.....	39 28	75 31	5 02	Philadelphia.....	93	-3 28	-4 08	+0.6	0.0	1.0
53	Reedy Island Quarantine, Del.....	39 31	75 34	5 02	Philadelphia.....	93	-3 11	-3 42	+0.6	0.0	1.0
54	Salem, Salem Creek, N. J.....	39 34	75 28	5 02	Philadelphia.....	93	-2 49	-2 57	+1.1	0.0	1.0
55	Delaware City, Del.....	39 35	75 35	5 02	Philadelphia.....	93	-2 53	-3 17	+0.7	0.0	1.0
56	New Castle, Del.....	39 39	75 34	5 02	Philadelphia.....	93	-2 32	-2 53	+0.7	0.0	1.0
57	Deep Water Point, N. J.....	39 42	75 31	5 02	Philadelphia.....	93	-2 16	-2 33	+0.7	0.0	1.0
58	Wilmington, Del.....	39 44	75 32	5 02	Philadelphia.....	93	-2 04	-2 21	+0.5	0.0	1.0
59	Edgemoor, Cherry Island Lt., Del.....	39 45	75 30	5 02	Philadelphia.....	93	-2 00	-2 16	+0.7	0.0	1.0
60	Marcus Hook, Pa.....	39 49	75 25	5 02	Philadelphia.....	93	-1 33	-1 45	+0.6	0.0	1.0

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	7 25	1 17	7 22a	1 31b	4.4	5.3	3.5	4.8	1.0	0.2	.....	1.0	2.2	2.2	9.0
2	7 21	1 13	7 18a	1 27b	4.3	5.1	3.4	4.6	1.0	0.2	.....	1.0	2.1	2.1	9.0
3	7 18	1 10	7 15a	1 24b	4.1	4.9	3.2	4.4	0.9	0.2	.....	0.9	2.0	2.0	9.0
4	7 20	1 13	7 17a	1 28b	3.8	4.5	3.0	4.1	0.9	0.2	.....	0.9	1.9	1.9	8.5
5	7 50	1 43	7 46a	2 01b	2.2	2.6	1.8	2.5	0.7	0.1	.....	0.7	1.1	1.1	8.5
6	9 16	3 14	9 11a	3 33b	1.1	1.3	0.8	1.3	0.5	0.1	.....	0.5	0.5	0.6	8.5
7	9 52	3 49	9 47a	4 08b	0.9	1.1	0.7	1.2	0.5	0.1	.....	0.5	0.5	0.5	8.5
8	11 02	5 06	10 57a	5 26b	0.7	0.9	0.6	1.0	0.4	0.1	.....	0.4	0.4	0.4	8.5
9	12 10	6 15	12 05a	6 36b	0.7	0.8	0.6	0.9	0.4	0.1	.....	0.4	0.4	0.4	8.5
10	7 42	1 32	7 39a	1 50b	3.3	3.9	2.6	3.5	0.8	0.1	.....	0.8	1.6	1.6	8.0
11	8 34	2 50	8 30a	3 08b	2.6	3.2	2.1	2.9	0.7	0.1	.....	0.7	1.3	1.3	8.0
12	9 33	3 46	9 28a	4 06b	2.3	3.8	1.9	2.6	0.7	0.1	.....	0.7	1.2	1.2	8.0
13	7 39	1 29	7 36a	1 47b	3.9	4.7	3.1	4.2	0.9	0.2	.....	0.9	1.9	1.9	8.0
14	8 37	2 40	8 33a	2 59b	3.9	4.7	3.2	4.3	0.9	0.2	.....	0.9	2.0	2.0	8.0
15	7 36	1 25	7 33a	1 43b	4.1	4.9	3.3	4.5	1.0	0.2	.....	1.0	2.1	2.1	7.5
16	7 35	1 21	7 32a	1 38b	4.2	5.0	3.4	4.6	1.0	0.2	.....	1.0	2.1	2.1	7.5
17	7 32	1 18	7 29a	1 35b	4.2	5.1	3.4	4.6	1.0	0.2	.....	1.0	2.1	2.1	7.0
18	7 30	1 15	7 27a	1 31b	4.2	5.1	3.4	4.6	1.0	0.2	.....	1.0	2.1	2.1	7.0
19	7 37	1 24	7 34a	1 40b	4.4	5.3	3.5	4.8	1.0	0.2	.....	1.0	2.2	2.2	7.0
20	7 50	1 33	7 48a	1 49b	4.6	5.5	3.6	4.9	1.0	0.2	.....	1.0	2.3	2.3	7.0
21	8 00	1 40	7 56a	1 54b	4.7	5.6	3.8	5.1	1.0	0.2	.....	1.0	2.4	2.4	7.0
22	8 05	1 46	8 01a	1 58b	4.2	5.0	3.4	4.6	0.9	0.2	.....	1.0	2.1	2.2	6.5
23	8 08	1 51	8 04a	2 01b	4.4	5.2	3.5	4.7	0.9	0.2	.....	1.0	2.2	2.2	6.5
24	8 16	2 03	8 12a	2 11b	4.6	5.5	3.7	4.9	0.9	0.2	.....	1.0	2.3	2.4	6.5
25	8 38	2 32	8 34a	2 38b	5.1	6.1	4.2	5.5	1.0	0.2	.....	1.1	2.6	2.6	6.5
26	8 30	2 20	8 26a	2 24b	5.1	6.0	4.2	5.5	1.0	0.2	.....	1.1	2.6	2.6	6.5
27	8 43	2 37	8 39a	2 40b	5.4	6.3	4.4	5.7	1.0	0.2	.....	1.1	2.7	2.7	6.5
28	8 10	1 54	8 06a	2 00b	5.1	6.0	4.2	5.5	1.0	0.2	.....	1.1	2.5	2.6	7.0
29	8 47	2 43	8 43a	2 44b	5.8	6.8	4.7	6.1	1.1	0.2	.....	1.1	2.9	2.9	7.0
30	9 10	3 20	9 06a	3 18a	5.6	6.6	4.6	6.0	1.1	0.2	.....	1.1	2.8	2.9	7.0
31	10 00	4 30	9 56a	4 24a	5.2	6.1	4.3	5.6	1.0	0.2	.....	1.1	2.6	2.7	7.0
32	11 30	6 18	11 26a	6 10a	4.7	5.5	3.9	5.1	1.0	0.2	.....	1.0	2.4	2.5	7.0
33	9 02	3 02	8 58a	2 58a	5.9	6.9	4.9	6.3	1.1	0.2	.....	1.1	3.0	3.1	7.0
34	9 08	3 10	9 04a	3 04a	5.8	6.8	4.8	6.2	1.1	0.2	.....	1.1	2.9	3.0	6.5
35	8 56	2 54	8 52a	2 50a	5.4	6.4	4.5	5.8	1.0	0.2	.....	1.1	2.7	2.8	6.5
36	9 55	4 20	9 51a	4 14a	2.7	3.1	2.3	3.0	0.7	0.2	.....	0.7	1.4	1.4	6.5
37	10 00	4 30	9 56a	4 24a	2.5	2.9	2.1	2.8	0.7	0.2	.....	0.7	1.2	1.3	6.5
38	11 00	5 50	10 56a	5 40a	1.0	1.2	0.8	1.2	0.4	0.1	.....	0.5	0.5	0.6	6.5
39	9 25	3 32	9 21a	3 24a	5.8	6.7	4.9	6.2	1.0	0.3	.....	1.1	2.9	3.0	6.5
40	9 14	3 18	9 10a	3 12a	6.0	7.0	5.0	6.4	1.0	0.3	.....	1.1	3.0	3.1	7.0
41	9 42	4 03	9 38a	3 55a	4.8	5.5	4.1	5.2	1.0	0.2	.....	1.0	2.4	2.5	6.5
42	9 38	3 49	9 34a	3 40a	5.9	6.8	5.0	6.3	1.1	0.3	.....	1.1	3.0	3.1	6.5
43	10 30	5 15	10 26a	5 05a	3.0	3.4	2.6	3.3	0.8	0.2	.....	0.8	1.5	1.6	6.5
44	9 34	3 45	9 30a	3 35a	6.0	6.9	5.1	6.4	1.1	0.3	.....	1.1	3.0	3.2	7.0
45	9 45	3 58	9 41a	3 48a	6.0	6.9	5.1	6.4	1.1	0.3	.....	1.1	3.0	3.1	7.0
46	9 50	4 05	9 47a	3 53a	6.0	6.9	5.2	6.5	1.0	0.3	.....	1.1	3.0	3.2	7.0
47	10 20	4 45	10 17a	4 33a	5.9	6.7	5.1	6.3	1.0	0.3	.....	1.1	3.0	3.1	7.0
48	11 20	6 10	11 17a	5 58a	6.5	7.4	5.6	6.9	1.1	0.3	.....	1.1	3.2	3.4	7.0
49	9 54	4 10	9 51a	3 58a	6.0	6.8	5.1	6.4	1.0	0.3	.....	1.1	3.0	3.1	6.5
50	10 10	4 32	10 07a	4 20a	6.0	6.8	5.1	6.4	1.0	0.3	.....	1.1	3.0	3.1	6.5
51	10 22	4 48	10 19a	4 36a	5.9	6.6	5.2	6.4	1.0	0.3	.....	1.0	3.0	3.1	6.5
52	10 26	4 53	10 23a	4 40a	5.9	6.6	5.2	6.4	1.0	0.3	.....	1.0	3.0	3.1	6.5
53	10 43	5 19	10 40a	5 06a	5.9	6.6	5.2	6.3	1.0	0.3	.....	1.0	2.9	3.1	6.5
54	11 05	6 04	11 02a	5 50a	6.4	7.2	5.6	6.9	1.0	0.3	.....	1.1	3.2	3.4	6.5
55	11 01	5 44	10 58a	5 30a	5.9	6.7	5.2	6.4	1.0	0.3	.....	1.0	3.0	3.1	6.5
56	11 22	6 08	11 19a	5 54a	6.0	6.6	5.4	6.5	1.0	0.3	.....	1.0	3.0	3.1	7.0
57	11 38	6 22	11 35a	6 14a	6.0	6.6	5.4	6.5	1.0	0.3	.....	1.0	3.0	3.1	7.0
58	11 50	6 40	11 47a	6 25a	5.8	6.4	5.2	6.3	1.0	0.3	.....	1.0	2.9	3.0	7.0
59	11 54	6 45	11 51a	6 30a	6.0	6.6	5.4	6.5	1.0	0.3	.....	1.0	3.0	3.1	7.0
60	12 21	7 16	12 18a	7 00a	5.9	6.5	5.3	6.4	1.0	0.3	.....	1.0	3.0	3.1	7.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
NEW JERSEY, DELAWARE, AND PENNSYLVANIA—continued.											
Delaware River—Continued.		North.	West.			Time meridian, 75° W.		Mean Low Water.			
		°	°	h. m.		h. m.	h. m.	feet.	feet.		
1	Chester, Pa.	39 50	75 22	5 01	Philadelphia	93	-1 21	-1 35	+0.6	0.0	1.1
2	Billingsport, N. J.	39 51	75 15	5 01	Philadelphia	93	-0 53	-1 01	+0.3	0.0	1.0
3	Fort Mifflin, Pa.	39 52	75 13	5 01	Philadelphia	93	-0 39	-0 43	+0.2	0.0	1.0
4	Girard Point, Schuylkill River, Pa.	39 54	75 12	5 01	Philadelphia	93	-0 34	-0 38	+0.2	0.0	1.0
5	Point Breeze, Schuylkill River, Pa.	39 55	75 12	5 01	Philadelphia	93	-0 24	-0 28	+0.2	0.0	1.0
6	Grays Ferry Bridge, Schuylkill R., Pa.	39 57	75 12	5 01	Philadelphia	93	-0 18	-0 21	+0.2	0.0	1.0
7	Fairmount Bridge, Schuylkill R., Pa.	39 58	75 11	5 01	Philadelphia	93	-0 13	-0 15	+0.3	0.0	1.0
8	League Island Navy Yard, Pa.	39 53	75 11	5 01	Philadelphia	93	-0 30	-0 33	+0.1	0.0	1.0
9	Gloucester, Mercer st., N. J.	39 54	75 08	5 01	Philadelphia	93	-0 19	-0 22	0.0	0.0	1.0
10	Philadelphia, Washington ave., Pa.	39 56	75 09	5 01	Philadelphia	93	-0 06	-0 06	0.0	0.0	1.0
11	PHILADELPHIA, Chestnut st., Pa.	39 57	75 08	5 01	Philadelphia	93	0 00	0 00	0.0	0.0	1.0
12	Camden, Coopers Point, N. J.	39 57	75 08	5 01	Philadelphia	93	+0 03	+0 02	0.0	0.0	1.0
13	Philadelphia, Cramps Ship Yd., Pa.	39 58	75 07	5 00	Philadelphia	93	+0 08	+0 07	0.0	0.0	1.0
14	Bridensburg, Pa.	40 00	75 01	5 00	Philadelphia	93	+0 29	+0 29	+0.1	0.0	1.0
15	Delanco, Rancocas Creek, N. J.	40 03	74 57	5 00	Philadelphia	93	+1 01	+1 02	+0.3	0.0	1.0
16	Centerton, Rancocas Creek, N. J.	40 00	74 52	4 59	Philadelphia	93	+1 28	+1 36	-1.2	0.0	0.7
17	Mount Holly, Rancocas Creek, N. J.	40 00	74 48	4 59	Philadelphia	93	+1 58	+2 26	-4.0	0.0	0.5
18	Burlington, N. J.	40 05	74 51	4 59	Philadelphia	93	+1 32	+1 35	+0.2	0.0	1.0
19	Bordentown, N. J.	40 09	74 43	4 59	Philadelphia	93	+2 25	+2 35	-0.5	0.0	0.9
20	Trenton, N. J.	40 13	74 46	4 59	Philadelphia	93	+2 58	+3 11	-1.0	0.0	0.8
DELAWARE—continued.											
Outer coast.											
21	Rehoboth	38 43	75 06	5 00	Sandy Hook	89	+0 30	+0 19	-0.7	0.0	0.8
22	Indian River Inlet	38 37	75 04	5 00	Sandy Hook	89	+0 25	+0 14	-0.8	0.0	0.8
MARYLAND.											
Outer coast.											
23	Fenwick Island Light	38 27	75 03	5 00	Sandy Hook	89	+0 17	+0 06	-1.0	0.0	0.7
24	Ocean City	38 20	75 05	5 00	Sandy Hook	89	+0 10	+0 01	-1.0	0.0	0.7
25	North Beach Life-Saving Station	38 12	75 09	5 01	Sandy Hook	89	+0 06	-0 03	-1.1	0.0	0.7
VIRGINIA.											
Outer coast.											
26	Chincoteague Inlet	37 53	75 25	5 02	Old Point Comfort	105	-1 17	-1 07	+0.7	0.0	1.2
27	Franklin City	38 00	75 23	5 02	Old Point Comfort	105	+0 46	+1 15	-1.5	0.0	0.9
28	Metomkin Inlet	37 41	75 35	5 02	Old Point Comfort	105	-1 13	-1 04	+1.2	0.0	1.0
29	Great Machipongo Inlet	37 22	75 43	5 03	Old Point Comfort	105	-0 59	-0 49	+1.8	0.0	1.7
30	Ship Shoal Inlet	37 13	75 48	5 03	Old Point Comfort	105	-0 50	-0 42	+1.7	0.0	1.6
Chesapeake Bay, Eastern Shore.											
31	Cape Charles Quarantine	37 06	75 59	5 04	Old Point Comfort	105	-0 40	-0 31	+0.3	0.0	1.1
32	Old Plantation Light	37 14	76 03	5 04	Old Point Comfort	105	-0 15	-0 06	-0.2	0.0	0.9
33	Cherrystone Light	37 16	76 02	5 04	Old Point Comfort	105	-0 11	-0 02	-0.2	0.0	0.9
34	Naswaddox Creek	37 28	75 58	5 04	Old Point Comfort	105	+1 03	+1 17	-0.7	0.0	0.7
35	Pungoteague Creek	37 40	75 50	5 03	Old Point Comfort	105	+2 12	+2 30	-0.8	0.0	0.7
36	Watts Island Light	37 47	75 54	5 04	Old Point Comfort	105	+2 59	+3 18	-0.8	0.0	0.6
37	Tangier Sound Light	37 47	75 58	5 04	Old Point Comfort	105	+2 59	+3 18	-0.9	0.0	0.6
MARYLAND—continued.											
Chesapeake Bay, Eastern Shore.											
38	Shelltown, Pocomoke River	37 59	75 38	5 03	Old Point Comfort	105	+4 05	+4 43	-0.1	0.0	0.7
39	Pocomoke, Pocomoke River	38 05	75 34	5 02	Old Point Comfort	105	+5 28	+6 07	+0.3	0.0	1.1
40	Snowhill, Pocomoke River	38 09	75 25	5 02	Old Point Comfort	105	+6 43	+7 22	+0.5	0.0	1.2
41	Janes Island Light	37 58	75 55	5 04	Old Point Comfort	105	+3 59	+4 20	-0.7	0.0	0.7
42	Crisfield, Little Annemessex River	37 59	75 52	5 03	Old Point Comfort	105	+4 02	+4 35	-0.6	0.0	0.7
43	Solomons Lump Light	38 03	76 01	5 04	Old Point Comfort	105	+4 20	+4 44	-0.8	0.0	0.7
44	Holland Island Bar Light	38 04	76 06	5 04	Old Point Comfort	105	+4 23	+4 49	-0.9	0.0	0.6
45	Sharkfin Shoal Light	38 12	75 59	5 04	Old Point Comfort	105	+4 53	+5 19	-0.3	0.0	0.8
46	Great Shoals Light, Monie Bay	38 13	75 53	5 04	Old Point Comfort	105	+5 11	+5 44	-0.1	0.0	0.8
47	Vienna, Nanticoke River	38 29	75 49	5 03	Old Point Comfort	105	+6 24	+7 03	+0.5	0.0	1.2

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	0 06	7 27	0 08b	7 11a	5.8	6.3	5.4	6.3	1.0	0.3	.....	1.0	2.9	3.1	7.5
2	0 37	8 01	0 34b	7 45a	5.6	6.0	5.1	6.1	1.0	0.3	.....	1.0	2.8	2.9	7.5
3	0 51	8 19	0 48b	8 03a	5.5	5.8	5.1	6.0	1.0	0.3	.....	1.0	2.7	2.9	7.5
4	0 56	8 24	0 53b	8 08a	5.4	5.8	5.1	5.9	1.0	0.3	.....	1.0	2.7	2.9	8.0
5	1 06	8 34	1 03b	8 18a	5.4	5.8	5.1	5.9	1.0	0.3	.....	1.0	2.7	2.9	8.0
6	1 12	8 41	1 09b	8 25a	5.5	5.8	5.1	6.0	1.0	0.3	.....	1.0	2.7	2.9	8.0
7	1 17	8 47	1 14b	8 30a	5.5	5.9	5.2	6.0	1.0	0.3	.....	1.0	2.8	2.9	8.0
8	1 00	8 29	0 57b	8 12a	5.4	5.7	5.0	5.9	1.0	0.3	.....	1.0	2.7	2.8	8.0
9	1 11	8 42	1 08b	8 24a	5.3	5.7	4.9	5.8	1.0	0.3	.....	1.0	2.6	2.8	8.0
10	1 24	8 56	1 21b	8 38a	5.3	5.6	4.9	5.8	1.0	0.3	13 59	1.0	2.6	2.8	8.0
11	1 30	9 02	1 27b	8 44a	5.3	5.6	4.9	5.8	1.0	0.3	14 23	1.0	2.6	2.8	8.0
12	1 33	9 04	1 30b	8 46a	5.3	5.6	4.9	5.8	1.0	0.3	.....	1.0	2.6	2.8	8.0
13	1 39	9 10	1 36b	8 52a	5.3	5.6	4.9	5.8	1.0	0.3	.....	1.0	2.6	2.8	8.0
14	2 00	9 32	1 57b	9 14a	5.4	5.8	5.0	5.9	1.0	0.3	.....	1.0	2.7	2.8	8.0
15	2 32	10 05	2 29b	9 47a	5.5	5.9	5.1	6.0	1.0	0.3	.....	1.0	2.8	2.9	8.0
16	3 00	10 40	2 57b	10 22a	4.1	4.4	3.8	4.6	0.8	0.2	.....	0.9	2.0	2.2	8.0
17	3 30	11 30	3 27b	11 12a	1.3	1.4	1.2	1.6	0.5	0.1	.....	0.5	0.6	0.7	8.0
18	3 04	10 39	3 01b	10 21a	5.4	5.8	5.1	5.9	1.0	0.3	.....	1.0	2.7	2.9	8.0
19	3 57	11 39	3 54b	11 21a	4.7	5.1	4.4	5.2	0.9	0.3	.....	0.9	2.4	2.5	8.0
20	4 30	12 15	4 27b	11 57a	4.2	4.5	3.9	4.7	0.8	0.3	.....	0.9	2.1	2.2	8.0
21	8 01	1 42	7 59a	1 56b	4.0	4.8	3.2	4.8	0.9	0.1	.....	0.9	2.0	2.0	6.0
22	7 56	1 37	7 54a	1 48b	3.9	4.6	3.1	4.2	0.9	0.1	.....	0.9	1.9	2.0	6.0
23	7 48	1 29	7 46a	1 37b	3.7	4.4	3.0	4.0	0.8	0.1	.....	0.8	1.8	1.9	6.0
24	7 41	1 24	7 39a	1 29b	3.6	4.4	2.9	3.9	0.8	0.1	.....	0.8	1.8	1.9	6.0
25	7 36	1 19	7 34a	1 21b	3.6	4.3	2.9	3.9	0.8	0.1	.....	0.8	1.8	1.8	6.0
26	7 30	1 11	7 28a	1 07a	3.2	3.8	2.6	3.4	0.7	0.1	.....	0.7	1.6	1.6	5.5
27	9 33	3 33	9 31a	3 19a	1.0	1.2	0.8	1.3	0.5	0.1	.....	0.5	0.5	0.6	5.5
28	7 34	1 14	7 33a	1 05a	3.7	4.4	3.0	3.9	0.7	0.1	.....	0.7	1.8	1.9	5.5
29	7 47	1 28	7 46a	1 16a	4.4	5.3	3.5	4.6	0.7	0.1	.....	0.7	2.2	2.2	5.0
30	7 56	1 35	7 55a	1 21a	4.2	5.1	3.4	4.4	0.7	0.1	.....	0.7	2.1	2.2	5.0
31	8 05	1 45	8 06a	1 29a	2.8	3.2	2.4	3.2	0.6	0.1	.....	0.6	1.4	1.5	5.0
32	8 30	2 10	8 32a	1 54a	2.4	2.7	2.0	2.7	0.5	0.1	.....	0.5	1.2	1.2	5.0
33	8 34	2 14	8 36a	1 58a	2.3	2.7	1.9	2.6	0.5	0.1	.....	0.5	1.2	1.2	5.0
34	9 48	3 33	9 51a	3 18a	1.8	2.1	1.5	2.1	0.4	0.1	.....	0.4	0.9	1.0	5.0
35	10 58	4 47	11 02a	4 31a	1.7	2.0	1.5	2.0	0.3	0.1	.....	0.3	0.9	0.9	5.0
36	11 44	5 34	11 48a	5 18a	1.7	2.0	1.5	2.0	0.3	0.1	.....	0.3	0.9	0.9	5.0
37	11 44	5 34	11 48a	5 19a	1.6	1.8	1.3	1.8	0.3	0.1	.....	0.3	0.8	0.8	5.0
38	0 26	7 00	0 30b	6 45a	2.4	2.8	2.0	2.6	0.3	0.1	.....	0.3	1.2	1.3	5.5
39	1 50	8 25	1 54b	8 10a	2.8	3.2	2.4	3.0	0.3	0.1	.....	0.3	1.4	1.4	5.5
40	3 05	9 40	3 09b	9 25a	3.0	3.4	2.5	3.2	0.3	0.1	.....	0.3	1.5	1.5	6.0
41	0 19	6 36	0 24b	6 21a	1.8	2.0	1.5	2.0	0.3	0.1	.....	0.4	0.9	0.9	5.5
42	0 23	6 52	0 28b	6 37a	1.9	2.2	1.6	2.1	0.3	0.1	.....	0.4	0.9	1.0	5.5
43	0 40	7 00	0 46b	6 45a	1.7	1.9	1.4	1.9	0.3	0.1	.....	0.4	0.8	0.9	5.5
44	0 43	7 05	0 49b	6 50a	1.6	1.9	1.4	1.9	0.4	0.1	14 10	0.4	0.8	0.9	5.5
45	1 13	7 35	1 19b	7 20a	2.2	2.6	1.9	2.5	0.3	0.1	.....	0.4	1.1	1.2	5.5
46	1 31	8 00	1 37b	7 45a	2.5	2.8	2.1	2.7	0.3	0.1	.....	0.4	1.2	1.3	5.5
47	2 45	9 20	2 51b	9 05a	3.0	3.5	2.5	3.3	0.3	0.1	.....	0.4	1.5	1.6	5.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (EAST COAST)—Continued.												
MARYLAND—continued.												
Chesapeake Bay, Eastern Shore—Con.		North.	West.				Time meridian, 75° W.		Mean Low Water.			
		°	'	"	h. m.		h. m.	h. m.	feet.	feet.		
1	Fishing Point, Fishing Bay.....	38 18	76 01	5 04	Old Point Comfort	105	+5 15	+5 46	0.0	0.0	1.00	
2	Hooper Strait Light.....	38 14	76 05	5 04	Baltimore	97	-5 17	-5 31	+0.5	0.0	1.47	
3	Hooper Island Light.....	38 15	76 15	5 05	Baltimore	97	-5 12	-5 27	+0.4	0.0	1.38	
4	Barren Island.....	38 20	76 16	5 05	Baltimore	97	-4 58	-5 12	+0.4	0.0	1.32	
5	Sharps Island Light.....	38 38	76 23	5 06	Baltimore	97	-3 55	-4 10	+0.1	0.0	1.22	
6	Choptank River Light.....	38 39	76 11	5 05	Baltimore	97	-3 41	-3 45	+0.2	0.0	1.22	
7	Cambridge, Choptank River.....	38 34	76 04	5 04	Baltimore	97	-3 09	-3 03	+0.5	0.0	1.44	
8	Dover Ferry, Choptank River.....	38 45	76 00	5 04	Washington	101	-2 34	-2 27	-0.8	0.0	0.77	
9	Denton, Choptank River.....	38 53	75 51	5 03	Washington	101	-1 09	-1 01	-0.7	0.0	0.77	
10	Oxford, Tred Avon River.....	38 41	76 10	5 05	Baltimore	97	-3 34	-3 36	+0.3	0.0	1.25	
11	Easton Point, Tred Avon River.....	38 46	76 06	5 04	Baltimore	97	-3 03	-2 58	+0.5	0.0	1.41	
12	Bozman, Broad Creek.....	38 46	76 15	5 05	Baltimore	97	-3 24	-3 22	+0.4	0.0	1.33	
13	Poplar Island.....	38 46	76 23	5 06	Baltimore	97	-3 13	-3 29	0.0	0.0	1.00	
14	Tilghmans Point, Eastern Bay.....	38 52	76 15	5 05	Baltimore	97	-2 55	-3 07	0.0	0.0	0.97	
15	St. Michaels, Miles River.....	38 47	76 13	5 05	Baltimore	97	-2 36	-2 42	+0.1	0.0	1.12	
16	Bloody Point Bar Light.....	38 50	76 24	5 06	Baltimore	97	-2 50	-3 05	-0.1	0.0	0.95	
17	Love Point Light.....	39 03	76 17	5 05	Baltimore	97	-1 12	-1 27	-0.1	0.0	0.91	
18	Queenstown, Chester River.....	38 59	76 10	5 05	Baltimore	97	-0 43	-0 52	+0.2	0.0	1.14	
19	Chestertown, Chester River.....	39 12	76 04	5 04	Washington	101	-0 35	-0 40	-0.9	0.0	0.68	
20	Tolchester Beach.....	39 13	76 15	5 05	Baltimore	97	+0 19	+0 03	+0.1	0.0	1.12	
21	Betterton, Sassafras River.....	39 22	76 04	5 04	Washington	101	+0 22	+0 06	-1.0	0.0	0.66	
22	Georgetown, Sassafras River.....	39 22	75 53	5 04	Washington	101	+0 58	+0 45	-0.5	0.0	0.92	
23	Turkey Point Light, Elk River.....	39 27	76 01	5 04	Washington	101	+0 34	+0 20	-0.8	0.0	0.75	
24	Town Point Wharf, Elk River.....	39 30	75 55	5 04	Washington	101	+0 52	+0 35	-0.5	0.0	0.92	
25	Chesapeake, Back Creek, Elk River.....	39 32	75 49	5 03	Washington	101	+1 03	+0 48	-0.2	0.0	0.92	
26	Elkton Landing, Elk River.....	39 36	75 50	5 03	Washington	101	+1 09	+0 54	-0.2	0.0	0.92	
27	Charlestown, Northeast River.....	39 34	75 58	5 04	Washington	101	+1 07	+0 55	-0.3	0.0	0.89	
Chesapeake Bay, Western Shore.												
28	Havre de Grace, Susquehanna River.....	39 32	76 05	5 04	Washington	101	+1 22	+1 32	-0.7	0.0	0.75	
29	Port Deposit, Susquehanna River.....	39 36	76 07	5 04	Washington	101	+1 42	+1 50	-0.7	0.0	0.75	
30	Fishing Battery Light.....	39 30	76 05	5 01	Washington	101	+1 07	+1 07	-0.7	0.0	0.75	
31	Wilson Point, Bush River.....	39 23	76 16	5 05	Baltimore	97	+1 18	+1 03	+0.4	0.0	1.33	
32	Pooles Island Light.....	39 17	76 16	5 05	Baltimore	97	+0 46	+0 30	+0.1	0.0	1.07	
33	Battery Point, Gunpowder River.....	39 20	76 20	5 05	Baltimore	97	+0 55	+0 48	+0.1	0.0	1.07	
34	Bowleys Bar Point, Middle River.....	39 18	76 23	5 06	Baltimore	97	+0 43	+0 29	0.0	0.0	1.08	
35	Rocky Point, Back River.....	39 15	76 24	5 06	Baltimore	97	+0 38	+0 23	0.0	0.0	0.98	
36	Seven Foot Knoll Light.....	39 09	76 25	5 06	Baltimore	97	-0 14	-0 29	-0.2	0.0	0.81	
37	North Point, Patapsco River.....	39 12	76 27	5 06	Baltimore	97	-0 10	-0 13	-0.1	0.0	0.88	
38	Fort Carroll, Patapsco River.....	39 13	76 31	5 06	Baltimore	97	-0 06	-0 06	0.0	0.0	0.98	
39	Fort McHenry, Patapsco River.....	39 16	76 35	5 06	Baltimore	97	-0 02	-0 02	0.0	0.0	0.98	
40	BALTIMORE, FELLIS POINT.....	39 17	76 35	5 06	Baltimore	97	0 00	0 00	0.0	0.0	1.00	
41	Persimmon Point, Magothy River.....	39 03	76 26	5 06	Baltimore	97	-1 11	-1 26	-0.3	0.0	0.71	
42	Sandy Point Light.....	39 01	76 23	5 06	Baltimore	97	-1 29	-1 45	-0.3	0.0	0.71	
43	Greenbury Point Shoal Light.....	38 58	76 27	5 06	Baltimore	97	-1 54	-2 11	-0.3	0.0	0.71	
44	Annapolis, Severn River.....	38 58	76 29	5 06	Baltimore	97	-1 52	-2 09	-0.3	0.0	0.74	
45	Bay Ridge.....	38 56	76 27	5 06	Baltimore	97	-2 10	-2 26	-0.3	0.0	0.72	
46	Thomas Point Shoal Light.....	38 54	76 26	5 06	Baltimore	97	-2 25	-2 41	-0.3	0.0	0.74	
47	Ferry Point, South River.....	38 57	76 32	5 06	Baltimore	97	-2 15	-2 30	-0.3	0.0	0.74	
48	Galloway, West River.....	38 50	76 32	5 06	Baltimore	97	-2 29	-2 37	-0.3	0.0	0.78	
49	Fairhaven, Herring Bay.....	38 45	76 33	5 06	Baltimore	97	-3 19	-3 34	-0.3	0.0	0.78	
50	Cove Point Light.....	38 23	76 23	5 06	Baltimore	97	-4 48	-5 03	0.0	0.0	0.98	
51	Drum Point Light, Patuxent River.....	38 19	76 25	5 06	Baltimore	97	-4 59	-5 16	0.0	0.0	1.05	
52	Benedict, Patuxent River.....	38 30	76 40	5 07	Baltimore	97	-3 58	-3 58	+0.5	0.0	1.41	
53	Nottingham, Patuxent River.....	38 43	76 42	5 07	Washington	101	-4 13	-4 03	-0.3	0.0	0.89	
54	Cedar Point Light.....	38 18	76 22	5 05	Baltimore	97	-5 03	-5 19	+0.1	0.0	1.05	
55	Point No Point Light.....	38 08	76 18	5 05	Baltimore	97	-5 36	-5 52	+0.2	0.0	1.14	
MARYLAND, VIRGINIA, AND DISTRICT OF COLUMBIA.												
Potomac River.												
56	Point Lookout Light, Md.....	38 02	76 19	5 05	Old Point Comfort	105	+4 16	+4 41	-1.2	0.0	0.34	
57	Travis Point, Coan River, Va.....	38 00	76 28	5 06	Old Point Comfort	105	+4 25	+4 51	-1.1	0.0	0.35	
58	Lynch Point, Yeocomico River, Va.....	38 03	76 31	5 06	Old Point Comfort	105	+4 37	+5 03	-1.0	0.0	0.61	
59	Kinwale, Yeocomico River, Va.....	38 02	76 35	5 06	Old Point Comfort	105	+4 47	+5 13	-1.2	0.0	0.54	
60	Kitts Point, St. Mary River, Md.....	38 06	76 25	5 06	Old Point Comfort	105	+4 34	+5 00	-1.0	0.0	0.50	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> <i>°</i>
1	1 35	8 02	1 41b	7 47a	2.5	2.9	2.1	2.8	0.3	0.2	.....	0.4	1.3	1.3	5.5
2	1 19	7 42	1 31b	7 27a	1.7	2.0	1.4	2.0	0.3	0.2	.....	0.4	0.8	0.9	5.5
3	1 23	7 45	1 38b	7 80a	1.6	1.8	1.3	1.9	0.3	0.3	.....	0.4	0.8	0.9	5.5
4	1 87	8 00	1 54b	7 44a	1.5	1.8	1.3	1.9	0.3	0.4	.....	0.5	0.8	1.0	5.5
5	2 39	9 01	3 01b	8 44a	1.3	1.5	1.1	1.7	0.3	0.4	18 35	0.6	0.6	0.9	5.5
6	2 54	9 27	3 14b	9 10a	1.4	1.6	1.2	1.8	0.3	0.4	.....	0.5	0.7	0.9	6.0
7	3 27	10 10	3 45b	9 58a	1.6	1.9	1.4	2.0	0.3	0.4	.....	0.5	0.8	1.0	5.5
8	5 19	12 03	5 35b	11 46a	2.0	2.3	1.7	2.4	0.3	0.4	.....	0.5	1.0	1.2	6.0
9	6 45	1 05	7 00b	0 48b	2.2	2.5	1.8	2.6	0.3	0.4	.....	0.5	1.1	1.3	6.0
10	3 01	9 36	3 21b	9 19a	1.5	1.7	1.2	1.9	0.4	0.4	.....	0.6	0.7	1.0	6.0
11	3 33	10 15	3 50b	9 58a	1.6	1.9	1.4	2.0	0.4	0.4	.....	0.6	0.8	1.0	6.0
12	3 11	9 50	3 28b	9 33a	1.5	1.8	1.3	1.9	0.4	0.4	.....	0.6	0.8	1.0	6.0
13	3 21	9 42	3 38b	9 22a	1.2	1.3	1.0	1.6	0.5	0.4	.....	0.6	0.6	0.8	6.0
14	3 40	10 05	3 57b	9 47a	1.1	1.3	0.9	1.6	0.5	0.4	.....	0.6	0.6	0.8	6.0
15	3 59	10 30	4 16b	9 14a	1.3	1.5	1.1	1.7	0.5	0.4	.....	0.6	0.6	0.8	6.0
16	3 44	10 06	4 04b	9 36a	1.1	1.3	0.9	1.6	0.6	0.4	.....	0.7	0.6	0.7	6.0
17	5 23	11 45	5 40b	11 10a	1.1	1.2	0.9	1.6	0.8	0.3	19 40	0.9	0.5	0.7	6.0
18	5 52	12 20	6 09b	11 50a	1.3	1.5	1.1	1.9	0.8	0.3	.....	0.9	0.7	0.8	6.0
19	7 18	1 25	7 35b	1 00b	1.9	2.2	1.6	2.5	0.8	0.3	.....	0.9	1.0	1.1	6.0
20	6 54	0 50	7 09b	0 15b	1.3	1.5	1.1	1.9	0.9	0.3	.....	1.0	0.6	0.8	6.0
21	8 15	2 11	8 27b	1 41b	1.9	2.2	1.6	2.6	1.0	0.3	.....	1.0	1.0	1.1	6.0
22	8 51	2 50	9 00b	2 25b	2.3	2.7	2.0	3.0	1.0	0.3	.....	1.0	1.2	1.3	6.5
23	8 27	2 25	8 37b	1 55b	2.1	2.4	1.8	2.8	1.1	0.3	.....	1.1	1.0	1.2	6.0
24	8 45	2 40	8 54b	2 15b	2.3	2.7	2.0	3.0	1.0	0.3	.....	1.0	1.2	1.3	6.0
25	8 57	2 54	9 06b	2 34b	2.6	3.0	2.2	3.3	1.0	0.3	.....	1.0	1.3	1.5	6.0
26	9 03	3 00	9 11b	2 40b	2.6	3.0	2.2	3.3	1.0	0.3	.....	1.0	1.3	1.5	6.0
27	9 00	3 00	9 08b	2 35b	2.5	2.9	2.1	3.2	1.0	0.3	.....	1.0	1.3	1.4	6.0
28	9 15	3 35	9 25b	3 10b	2.1	2.5	1.8	2.8	0.9	0.3	.....	1.0	1.1	1.2	6.0
29	9 85	3 55	9 44b	3 35b	2.1	2.5	1.8	2.8	0.9	0.3	.....	1.0	1.1	1.2	6.0
30	9 00	3 12	9 11b	2 42b	2.1	2.5	1.8	2.8	0.9	0.3	.....	1.0	1.1	1.2	6.0
31	7 53	1 50	8 05b	1 15b	1.5	1.8	1.3	2.1	0.9	0.3	.....	1.0	0.8	0.9	6.0
32	7 21	1 17	7 34b	0 35b	1.2	1.4	1.0	1.8	0.9	0.3	20 56	0.9	0.6	0.8	6.0
33	7 30	1 35	7 43b	1 00b	1.2	1.4	1.0	1.8	0.8	0.3	.....	0.9	0.6	0.8	6.0
34	7 17	1 15	7 30b	0 45b	1.2	1.4	1.0	1.8	0.8	0.3	.....	0.9	0.6	0.8	6.0
35	7 12	1 09	7 26b	0 43b	1.1	1.3	1.0	1.7	0.8	0.3	.....	0.9	0.6	0.7	6.0
36	6 20	0 17	6 37b	0 00b	0.9	1.1	0.8	1.5	0.7	0.3	20 23	0.8	0.5	0.6	6.0
37	6 24	0 33	6 40b	0 16b	1.0	1.2	0.9	1.5	0.7	0.4	.....	0.8	0.5	0.7	6.0
38	6 28	0 40	6 43b	0 21b	1.1	1.3	1.0	1.7	0.7	0.4	.....	0.8	0.6	0.8	6.0
39	6 32	0 44	6 46b	0 24b	1.1	1.3	1.0	1.7	0.7	0.4	.....	0.8	0.6	0.8	6.0
40	6 34	0 46	6 48b	0 26b	1.2	1.3	1.0	1.7	0.7	0.4	21 12	0.8	0.6	0.8	6.0
41	5 23	11 45	5 40b	11 25a	0.8	0.9	0.7	1.3	0.6	0.4	.....	0.7	0.4	0.6	6.0
42	5 05	11 26	5 22b	11 06a	0.8	0.9	0.7	1.3	0.6	0.4	.....	0.7	0.4	0.6	6.0
43	4 40	11 00	4 57b	10 40a	0.8	0.9	0.7	1.3	0.5	0.4	.....	0.7	0.4	0.6	6.0
44	4 42	11 02	4 59b	10 42a	0.9	1.0	0.7	1.3	0.5	0.4	.....	0.6	0.4	0.6	6.0
45	4 24	10 45	4 44b	10 20a	0.8	1.0	0.7	1.3	0.5	0.4	.....	0.6	0.4	0.6	6.0
46	4 09	10 30	4 39b	9 57a	0.9	1.0	0.7	1.3	0.5	0.4	19 21	0.6	0.4	0.6	6.0
47	4 19	10 41	4 44b	10 11a	0.9	1.0	0.8	1.3	0.4	0.4	.....	0.6	0.4	0.6	6.0
48	4 05	10 34	4 30b	10 09a	0.9	1.0	0.8	1.3	0.4	0.4	.....	0.6	0.4	0.6	6.0
49	3 15	9 37	3 39b	9 17a	0.9	1.0	0.8	1.3	0.4	0.4	.....	0.5	0.4	0.6	5.5
50	1 46	8 08	2 04b	7 54a	1.1	1.3	1.0	1.4	0.3	0.3	.....	0.4	0.6	0.7	5.5
51	1 35	7 55	1 52b	7 42a	1.2	1.4	1.0	1.5	0.2	0.3	17 14	0.4	0.6	0.8	5.0
52	2 25	9 12	2 50b	8 59a	1.6	1.9	1.4	1.9	0.2	0.3	.....	0.4	0.8	1.0	5.5
53	3 37	10 24	3 49b	10 11a	2.5	2.9	2.1	2.8	0.2	0.3	.....	0.4	1.3	1.4	5.5
54	1 32	7 53	1 49b	7 40a	1.2	1.4	1.0	1.5	0.2	0.3	.....	0.4	0.6	0.8	5.0
55	0 59	7 20	1 08b	7 06a	1.3	1.5	1.1	1.6	0.3	0.2	.....	0.4	0.7	0.8	5.0
56	0 35	6 56	0 39b	6 42a	1.3	1.5	1.1	1.5	0.3	0.1	.....	0.3	0.7	0.7	5.0
57	0 43	7 05	0 47b	6 51a	1.4	1.7	1.2	1.6	0.3	0.1	.....	0.3	0.7	0.8	5.0
58	0 55	7 17	0 59b	7 03a	1.5	1.8	1.3	1.7	0.3	0.1	.....	0.3	0.8	0.8	5.0
59	1 05	7 27	1 09b	7 13a	1.4	1.6	1.1	1.5	0.3	0.1	.....	0.3	0.7	0.7	5.0
60	0 52	7 14	0 56b	7 00a	1.5	1.7	1.3	1.7	0.3	0.1	.....	0.3	0.8	0.8	5.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.		Standard port for reference.		Tidal differences.				Ratio of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			H.W.	L.W.	H.W.		L.W.
NORTH AMERICA (EAST COAST)—Continued.											
MARYLAND, VIRGINIA, AND DISTRICT OF COLUMBIA—continued.											
Potomac River—Continued.											
		North.	West.					Time meridian, 75° W.	Mean Low Water.		
		° /	° /	h. m.				h. m.	h. m.	feet. feet.	
1	St. Marys City, St. Mary River, Md.	38 11	76 26	5 06	Old Point Comfort	105	+ 4 52	+ 5 18	-1.0	0.0	0.50
2	Piney Point Light, Md.	38 08	76 32	5 06	Washington	101	- 6 46	- 7 01	-1.2	0.0	0.57
3	Coles Point, Va.	38 09	76 38	5 07	Washington	101	- 6 32	- 6 47	-1.1	0.0	0.62
4	Kaywood Point, Breton Bay, Md.	38 14	76 42	5 07	Washington	101	- 6 20	- 6 35	-1.0	0.0	0.67
5	Leonardtown, Breton Bay, Md.	38 17	76 38	5 07	Washington	101	- 6 13	- 6 25	-1.2	0.0	0.70
6	Compton, St. Clement Bay, Md.	38 16	76 42	5 07	Washington	101	- 6 10	- 6 22	-1.1	0.0	0.72
7	Blakistone Island Light, Md.	38 12	76 45	5 07	Washington	101	- 6 14	- 6 29	-1.0	0.0	0.76
8	Cob Pt. Bar Lt., Wicomico R., Md.	38 15	76 50	5 07	Washington	101	- 6 00	- 6 15	-1.0	0.0	0.76
9	Blakistone, Wicomico River, Md.	38 17	76 48	5 07	Washington	101	- 5 56	- 6 11	-1.0	0.0	0.76
10	Colonial Beach, Va.	38 15	76 58	5 08	Washington	101	- 5 44	- 5 58	-1.1	0.0	0.80
11	Lower Cedar Point Light, Md.	38 20	77 00	5 08	Washington	101	- 5 25	- 5 39	-1.4	0.0	0.82
12	Mathias Point, Va.	38 24	77 03	5 08	Washington	101	- 4 44	- 4 58	-1.6	0.0	0.83
13	Chapel Point, Port Tobacco R., Md.	38 28	77 02	5 08	Washington	101	- 4 31	- 4 44	-1.4	0.0	0.82
14	Upper Cedar Point Light, Md.	38 24	77 05	5 08	Washington	101	- 4 30	- 4 43	-1.7	0.0	0.81
15	Riverside, Md.	38 23	77 09	5 09	Washington	101	- 4 02	- 4 15	-1.7	0.0	0.81
16	Maryland Point Light, Md.	38 21	77 12	5 09	Washington	101	- 3 33	- 3 43	-1.7	0.0	0.81
17	Aquia Creek Entrance, Va.	38 24	77 19	5 09	Washington	101	- 2 54	- 3 00	-1.6	0.0	0.81
18	Clifton Beach, Md.	38 25	77 16	5 09	Washington	101	- 2 52	- 2 58	-1.6	0.0	0.81
19	Liverpool Point, Md.	38 28	77 16	5 09	Washington	101	- 2 25	- 2 32	-1.6	0.0	0.83
20	Quantico Creek Entrance, Va.	38 32	77 17	5 09	Washington	101	- 1 57	- 2 03	-1.4	0.0	0.84
21	Deep Point, Mattawoman Cr., Md.	38 34	77 13	5 09	Washington	101	- 1 34	- 1 40	-1.3	0.0	0.85
22	High Point, Occoquan Creek, Va.	38 37	77 12	5 09	Washington	101	- 1 23	- 1 27	-1.2	0.0	0.87
23	Indian Head, Md.	38 36	77 10	5 09	Washington	101	- 1 15	- 1 20	-1.2	0.0	0.88
24	Glymont, Md.	38 37	77 08	5 09	Washington	101	- 1 09	- 1 13	-1.1	0.0	0.89
25	Marshall Hall, Md.	38 41	77 06	5 08	Washington	101	- 0 41	- 0 46	-0.7	0.0	0.90
26	Mount Vernon, Va.	38 42	77 05	5 08	Washington	101	- 0 41	- 0 43	-0.7	0.0	0.91
27	Fort Washington, Md.	38 43	77 02	5 08	Washington	101	- 0 31	- 0 33	-0.4	0.0	0.93
28	River View, Md.	38 43	77 02	5 08	Washington	101	- 0 27	- 0 29	-0.4	0.0	0.95
29	Alexandria, Va.	38 48	77 02	5 08	Washington	101	- 0 13	- 0 14	0.0	0.0	0.99
30	Giesboro Point, D. C.	38 51	77 01	5 08	Washington	101	- 0 04	- 0 04	0.0	0.0	1.00
31	Arsenal Wharf, D. C.	38 52	77 01	5 08	Washington	101	- 0 02	- 0 02	0.0	0.0	1.00
32	WASHINGTON, Seventh street, D. C.	38 53	77 01	5 08	Washington	101	0 00	0 00	0.0	0.0	1.00
33	Navy-Yard, Anacostia River, D. C.	38 52	77 00	5 08	Washington	101	+ 0 03	+ 0 03	0.0	0.0	1.01
34	Benning Br., Anacostia R., D. C.	38 54	76 58	5 08	Washington	101	+ 0 11	+ 0 11	0.0	0.0	1.01
35	Gravelly Point, Va.	38 52	77 02	5 08	Washington	101	- 0 01	- 0 01	0.0	0.0	1.00
36	Aqueduct Bridge, D. C.	38 54	77 04	5 08	Washington	101	+ 0 07	+ 0 07	0.0	0.0	0.99
37	Mankins Fishery, D. C.	38 55	77 06	5 08	Washington	101	+ 0 11	+ 0 11	0.0	0.0	0.99
38	Chain Bridge, D. C.	38 56	77 07	5 08	Washington	101	+ 0 15	+ 0 15	-0.1	0.0	0.99
VIRGINIA—continued.											
Chesapeake Bay, Western Shore.											
39	Smith Point Light	37 58	76 11	5 05	Old Point Comfort	105	+ 3 34	+ 3 55	-1.4	0.0	0.46
40	Great Wicomico River Light	37 48	76 16	5 05	Old Point Comfort	105	+ 3 05	+ 3 24	-1.4	0.0	0.43
41	Dividing Creek	37 44	76 18	5 05	Old Point Comfort	105	+ 2 41	+ 3 00	-1.5	0.0	0.42
42	Stingray Point Light	37 34	76 16	5 05	Old Point Comfort	105	+ 1 36	+ 1 52	-1.4	0.0	0.49
43	Orchard Point, Rappahannock R.	37 39	76 27	5 06	Old Point Comfort	105	+ 2 01	+ 2 30	-1.1	0.0	0.53
44	Urbana, Rappahannock River	37 38	76 34	5 06	Old Point Comfort	105	+ 2 17	+ 2 54	-1.0	0.0	0.61
45	Bowlers Rock Lt., Rappahannock R.	37 49	76 44	5 07	Old Point Comfort	105	+ 3 28	+ 4 19	-0.7	0.0	0.71
46	Tappahannock, Rappahannock R.	37 56	76 52	5 07	Old Point Comfort	105	+ 4 32	+ 5 23	-0.9	0.0	0.85
47	Leedstown, Rappahannock River	38 07	77 00	5 08	Old Point Comfort	105	+ 6 29	+ 7 24	-1.1	0.0	0.85
48	Green Bay, Rappahannock River	38 09	77 05	5 08	Old Point Comfort	105	+ 7 32	+ 8 25	-0.8	0.0	0.87
49	Port Royal, Rappahannock River	38 10	77 11	5 09	Old Point Comfort	105	+ 8 09	+ 9 06	-0.6	0.0	0.93
50	Corbins Neck, Rappahannock R.	38 13	77 17	5 09	Old Point Comfort	105	+ 9 22	+ 10 27	+0.1	0.0	1.02
51	Fredericksburg, Rappahannock R.	38 18	77 27	5 10	Old Point Comfort	105	+ 10 03	+ 11 11	+0.7	0.0	1.15
52	Cherry Point, Piankatank River	37 31	76 19	5 05	Old Point Comfort	105	+ 1 16	+ 1 31	-1.3	0.0	0.82
53	Horse Point, Piankatank River	37 32	76 24	5 06	Old Point Comfort	105	+ 1 49	+ 2 06	-1.1	0.0	0.89
54	Wolf Trap Light	37 23	76 11	5 05	Old Point Comfort	105	+ 0 28	+ 0 40	-1.0	0.0	0.69
55	New Pt. Comfort Lt., Mobjack Bay	37 18	76 17	5 05	Old Point Comfort	105	+ 0 09	+ 0 18	-0.8	0.0	0.64
56	East River Entrance, Mobjack Bay	37 22	76 21	5 05	Old Point Comfort	105	+ 0 16	+ 0 25	-0.3	0.0	0.88
57	York Spit Light	37 13	76 15	5 05	Old Point Comfort	105	+ 0 04	+ 0 09	-0.5	0.0	0.82
58	Tue Marshes Light, York River	37 14	76 23	5 06	Old Point Comfort	105	+ 0 13	+ 0 20	-0.3	0.0	0.87
59	Quarter Point, York River	37 15	76 27	5 06	Old Point Comfort	105	+ 0 21	+ 0 29	-0.2	0.0	0.89
60	Yorktown, York River	37 14	76 30	5 06	Old Point Comfort	105	+ 0 27	+ 0 36	-0.1	0.0	0.94
61	Mumford Island, York River	37 16	76 31	5 06	Old Point Comfort	105	+ 0 33	+ 0 43	-0.1	0.0	0.96
62	Capahosie, York River	37 23	76 38	5 07	Old Point Comfort	105	+ 1 03	+ 1 21	+0.3	0.0	1.13
63	Moodys Wharf, York River	37 25	76 42	5 07	Old Point Comfort	105	+ 1 16	+ 1 38	+0.5	0.0	1.20

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	1 10	7 32	1 14b	7 18a	1.5	1.7	1.3	1.6	0.3	0.1	.....	0.3	0.8	0.8	5.0
2	1 05	7 27	1 08b	7 13a	1.6	1.9	1.4	1.8	0.3	0.1	.....	0.3	0.8	0.9	5.0
3	1 18	7 40	1 21b	7 15b	1.8	2.0	1.5	1.9	0.4	0.1	.....	0.4	0.9	0.9	5.0
4	1 30	7 52	1 33b	8 03b	1.9	2.1	1.6	2.0	0.4	0.1	.....	0.4	0.9	1.0	5.0
5	1 37	8 02	1 40b	8 13b	1.7	2.0	1.4	1.9	0.3	0.1	.....	0.3	0.8	0.9	5.0
6	1 40	8 05	1 43b	8 16b	1.8	2.0	1.5	1.9	0.4	0.1	.....	0.4	0.9	0.9	5.0
7	1 36	7 58	1 39b	8 09b	1.9	2.2	1.6	2.1	0.4	0.1	.....	0.4	1.0	1.0	5.0
8	1 50	8 12	1 53b	8 23b	1.9	2.2	1.6	2.0	0.4	0.1	.....	0.4	0.9	1.0	5.0
9	1 54	8 16	1 56b	8 27b	1.9	2.2	1.6	2.1	0.4	0.1	.....	0.4	1.0	1.0	5.0
10	2 05	8 28	2 07b	8 39b	1.7	2.0	1.4	1.9	0.3	0.1	.....	0.3	0.9	0.9	5.0
11	2 24	8 47	2 26b	8 58b	1.5	1.7	1.3	1.6	0.3	0.1	.....	0.3	0.8	0.8	5.0
12	3 05	9 28	3 07b	9 39b	1.2	1.4	1.0	1.4	0.2	0.1	.....	0.2	0.6	0.7	5.0
13	3 18	9 42	3 20b	9 53b	1.5	1.7	1.3	1.6	0.3	0.1	.....	0.3	0.8	0.8	5.0
14	3 19	9 43	3 21b	9 54b	1.2	1.4	1.0	1.3	0.2	0.1	.....	0.2	0.6	0.6	5.0
15	3 46	10 10	3 47b	10 21b	1.1	1.3	1.0	1.2	0.2	0.1	.....	0.2	0.6	0.6	5.0
16	4 15	10 42	4 16b	10 53b	1.1	1.3	1.0	1.2	0.2	0.1	.....	0.2	0.6	0.6	5.0
17	4 54	11 25	4 55b	11 36b	1.2	1.4	1.0	1.3	0.2	0.1	.....	0.2	0.6	0.7	5.0
18	4 56	11 27	4 57b	11 38b	1.2	1.4	1.0	1.3	0.2	0.1	.....	0.2	0.6	0.7	5.0
19	5 23	11 53	5 23b	12 04b	1.3	1.5	1.1	1.4	0.3	0.1	.....	0.3	0.6	0.7	5.0
20	5 51	12 22	5 51b	12 33b	1.4	1.6	1.2	1.5	0.3	0.1	.....	0.3	0.7	0.8	5.0
21	6 14	0 20	6 13b	0 31a	1.6	1.8	1.3	1.7	0.3	0.1	.....	0.3	0.8	0.8	5.0
22	6 25	0 33	6 24b	0 44a	1.6	1.9	1.4	1.8	0.3	0.1	.....	0.3	0.8	0.9	5.0
23	6 33	0 40	6 32b	0 51a	1.7	2.0	1.4	1.9	0.3	0.1	.....	0.3	0.8	0.9	5.0
24	6 39	0 47	6 38b	0 58a	1.8	2.0	1.5	1.9	0.4	0.1	.....	0.4	0.9	0.9	5.0
25	7 05	1 15	7 04b	1 26a	2.1	2.5	1.8	2.3	0.4	0.1	.....	0.4	1.1	1.1	5.0
26	7 08	1 18	7 07b	1 29a	2.2	2.5	1.8	2.4	0.4	0.1	.....	0.4	1.1	1.2	5.0
27	7 18	1 28	7 17b	1 39a	2.4	2.8	2.0	2.6	0.5	0.1	.....	0.5	1.2	1.3	5.0
28	7 22	1 32	7 20b	1 43a	2.5	2.9	2.1	2.7	0.5	0.2	.....	0.5	1.2	1.3	5.0
29	7 36	1 47	7 34b	1 58a	2.8	3.3	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
30	7 45	1 57	7 43b	2 08a	2.9	3.3	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
31	7 47	1 59	7 45b	2 10a	2.9	3.3	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
32	7 49	2 01	7 47b	2 12a	2.9	3.3	2.4	3.1	0.6	0.2	19 16	0.6	1.4	1.5	5.0
33	7 52	2 04	7 50b	2 15a	2.9	3.3	2.4	3.2	0.6	0.2	19 34	0.6	1.4	1.5	5.0
34	8 00	2 12	7 58b	2 23a	2.9	3.3	2.4	3.2	0.6	0.2	.....	0.6	1.4	1.5	5.0
35	7 48	2 00	7 46b	2 11a	2.9	3.3	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
36	7 56	2 08	7 54b	2 19a	2.8	3.3	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
37	8 00	2 12	7 58b	2 23a	2.8	3.2	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
38	8 04	2 16	8 02b	2 27a	2.8	3.2	2.4	3.1	0.6	0.2	.....	0.6	1.4	1.5	5.0
39	12 18	6 10	12 22a	5 56a	1.2	1.3	1.0	1.4	0.3	0.1	.....	0.3	0.6	0.6	5.0
40	11 49	5 39	11 52a	5 24a	1.1	1.2	0.9	1.3	0.3	0.1	12 00	0.3	0.5	0.6	5.0
41	11 25	5 15	11 29a	4 59a	1.1	1.2	0.9	1.3	0.3	0.1	.....	0.3	0.5	0.6	5.0
42	10 20	4 07	10 24a	3 50a	1.2	1.3	1.0	1.4	0.3	0.1	11 03	0.3	0.6	0.6	5.0
43	10 44	4 44	10 47a	4 28a	1.4	1.6	1.2	1.6	0.3	0.1	.....	0.3	0.7	0.8	5.0
44	11 00	5 08	11 03a	4 52a	1.6	1.8	1.3	1.8	0.3	0.1	.....	0.3	0.8	0.8	5.0
45	12 10	6 32	12 12a	6 16a	1.8	2.1	1.5	2.0	0.4	0.1	.....	0.4	0.9	1.0	5.0
46	0 49	7 36	0 51b	7 20a	1.6	1.9	1.4	1.9	0.4	0.1	.....	0.4	0.8	0.9	5.0
47	2 45	9 36	2 47b	9 20a	1.5	1.7	1.2	1.7	0.4	0.1	.....	0.4	0.7	0.8	5.0
48	3 48	10 37	3 50b	10 21a	1.7	2.0	1.4	2.0	0.4	0.1	.....	0.4	0.8	0.9	5.0
49	4 24	11 17	4 26b	11 01a	1.9	2.2	1.6	2.2	0.5	0.1	.....	0.5	1.0	1.0	5.0
50	5 37	0 13	5 39b	0 03b	2.6	3.0	2.2	3.0	0.6	0.1	.....	0.6	1.3	1.4	5.0
51	6 17	0 56	6 19b	0 40b	3.2	3.7	2.7	3.6	0.6	0.1	.....	0.6	1.6	1.7	5.0
52	10 00	3 46	10 03a	3 30a	1.2	1.4	1.0	1.4	0.4	0.1	.....	0.4	0.6	0.6	5.0
53	10 32	4 20	10 35a	4 04a	1.4	1.6	1.2	1.6	0.4	0.1	.....	0.4	0.7	0.7	5.0
54	9 12	2 55	9 14a	2 39a	1.5	1.7	1.3	1.8	0.5	0.1	.....	0.5	0.8	0.8	5.0
55	8 53	2 33	8 55a	2 17a	1.7	2.0	1.5	2.0	0.5	0.1	.....	0.5	0.9	0.9	4.5
56	9 00	2 40	9 02a	2 24a	2.2	2.5	1.8	2.5	0.5	0.1	.....	0.5	1.1	1.2	4.5
57	8 48	2 24	8 50a	2 08a	2.0	2.3	1.7	2.4	0.5	0.1	.....	0.5	1.0	1.1	4.5
58	8 56	2 34	8 58a	2 18a	2.2	2.5	1.8	2.5	0.5	0.1	.....	0.5	1.1	1.1	4.5
59	9 04	2 43	9 06a	2 27a	2.3	2.6	1.9	2.6	0.5	0.1	.....	0.5	1.2	1.2	4.5
60	9 10	2 50	9 12a	2 34a	2.4	2.7	2.0	2.7	0.5	0.1	.....	0.5	1.2	1.2	4.5
61	9 16	2 57	9 18a	2 41a	2.5	2.8	2.1	2.8	0.5	0.1	.....	0.5	1.2	1.3	4.5
62	9 45	3 34	9 47a	3 18a	2.9	3.3	2.4	3.2	0.5	0.1	.....	0.5	1.4	1.5	4.5
63	9 58	3 51	10 00a	3 35a	3.0	3.5	2.6	3.4	0.5	0.1	.....	0.5	1.5	1.6	4.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rap. of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
VIRGINIA—continued.											
Chesapeake Bay, Western Shore—Con.		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.	
1	West Point, York River	37 32	76 48	5 07	Old Point Comfort	105	+1 43	+2 12	+0.9	0.0	1.3
2	Back River Light	37 05	76 16	5 05	Old Point Comfort	105	+0 01	+0 01	-0.1	0.0	0.6
3	OLD POINT COMFORT	37 00	76 19	5 05	Old Point Comfort	105	0 00	0 00	0.0	0.0	1.0
4	Craney Island Lt., Elizabeth River ..	36 54	76 20	5 05	Old Point Comfort	105	+0 16	+0 23	+0.1	0.0	1.0
5	Norfolk Navy-Yard, Elizabeth R.	36 50	76 18	5 05	Old Point Comfort	105	+0 32	+0 47	+0.3	0.0	1.1
6	Newport News, James River	36 58	76 26	5 06	Old Point Comfort	105	+0 20	+0 29	+0.1	0.0	1.0
7	Newman Point, Nansemond River	36 52	76 30	5 06	Old Point Comfort	105	+0 35	+0 51	+0.3	0.0	1.2
8	Suffolk Bridge, Nansemond River	36 44	76 35	5 06	Old Point Comfort	105	+1 34	+2 02	+0.9	0.0	1.2
9	Warwick River, James River	37 05	76 33	5 06	Old Point Comfort	105	+1 01	+1 21	0.0	0.0	0.9
10	Hog Point, James River	37 12	76 41	5 07	Old Point Comfort	105	+2 10	+2 39	-0.4	0.0	0.4
11	Jamestown Island, James River	37 12	76 46	5 07	Old Point Comfort	105	+2 53	+3 29	-0.6	0.0	0.7
12	Barrets Pt., Chickahominy River	37 14	76 52	5 07	Old Point Comfort	105	+3 32	+4 14	-0.6	0.0	0.5
13	Mount Airy, Chickahominy River	37 21	76 55	5 08	Old Point Comfort	105	+5 09	+5 58	-0.4	0.0	0.5
14	Winsor Shades, Chickahominy R.	37 25	76 59	5 08	Old Point Comfort	105	+6 29	+7 23	-0.1	0.0	0.9
15	Claremont, James River	37 14	76 58	5 08	Old Point Comfort	105	+4 07	+4 53	-0.5	0.0	0.9
16	Sturgeon Point, James River	37 18	77 00	5 08	Old Point Comfort	105	+4 30	+5 17	-0.4	0.0	0.4
17	Windmill Point, James River	37 18	77 06	5 08	Old Point Comfort	105	+5 14	+6 03	-0.1	0.0	0.9
18	Harrisons Landing, James River	37 19	77 11	5 09	Old Point Comfort	105	+5 38	+6 29	0.0	0.0	1.0
19	Jordan Point, James River	37 19	77 13	5 09	Old Point Comfort	105	+5 50	+6 41	+0.1	0.0	1.0
20	City Point, James River	37 19	77 17	5 09	Old Point Comfort	105	+6 06	+6 59	+0.2	0.0	1.0
21	Petersburg, Appomattox River	37 14	77 24	5 10	Old Point Comfort	105	+7 03	+8 31	+0.4	0.0	1.0
22	Shirley, James River	37 20	77 16	5 09	Old Point Comfort	105	+6 15	+7 06	+0.3	0.0	1.1
23	Picketts Wharf, James River	37 23	77 16	5 09	Old Point Comfort	105	+6 33	+7 27	+0.4	0.0	1.1
24	Curles, James River	37 23	77 18	5 09	Old Point Comfort	105	+6 59	+7 55	+0.6	0.0	1.2
25	Deep Bottom, James River	37 24	77 18	5 09	Old Point Comfort	105	+7 10	+8 07	+0.7	0.0	1.2
26	Dutch Gap, James River	37 23	77 22	5 09	Old Point Comfort	105	+7 28	+8 29	+0.8	0.0	1.3
27	Kingsland Creek, James River	37 21	77 24	5 10	Old Point Comfort	105	+7 43	+8 50	+0.9	0.0	1.3
28	Falling Creek, James River	37 26	77 26	5 10	Old Point Comfort	105	+7 51	+9 04	+1.0	0.0	1.3
29	Richmond Bar, James River	37 29	77 25	5 10	Old Point Comfort	105	+7 59	+9 22	+1.1	0.0	1.3
30	Drewry Island, James River	37 30	77 25	5 10	Old Point Comfort	105	+8 02	+9 31	+1.1	0.0	1.3
31	Richmond, James River	37 32	77 25	5 10	Old Point Comfort	105	+8 04	+9 37	+1.2	0.0	1.3
32	Lynnhaven Inlet	36 54	76 06	5 04	Old Point Comfort	105	-0 27	-0 26	+0.1	0.0	1.5
33	Cape Henry Light	36 56	76 00	5 04	Old Point Comfort	105	-0 45	-0 46	+0.3	0.0	1.1
Outer Coast.											
34	Virginia Beach	36 50	75 58	5 04	Old Point Comfort	105	-0 55	-0 36	+0.3	0.0	1.2
35	False Cape Life-Saving Station	36 36	75 53	5 04	Old Point Comfort	105	-1 01	-0 43	+0.2	0.0	1.0
NORTH CAROLINA.											
36	Currituck Beach Light	36 23	75 50	5 03	Old Point Comfort	105	-1 09	-0 51	+0.3	0.0	1.1
37	Oregon Inlet	35 48	75 32	5 02	Old Point Comfort	105	-1 31	-1 13	+0.2	0.0	1.3
38	New Inlet	35 41	75 26	5 02	Old Point Comfort	105	-1 24	-1 07	+0.3	0.0	1.1
39	Hatteras Inlet	35 12	75 44	5 03	Old Point Comfort	105	-1 42	-1 26	-0.5	0.0	0.9
40	Ocrakoke Inlet	35 04	76 01	5 04	Old Point Comfort	105	-1 45	-1 31	-0.6	0.0	0.9
41	Cape Lookout	34 36	76 31	5 06	Charleston	113	-1 10	-1 04	-1.4	0.0	0.7
42	Beaufort	34 43	76 39	5 07	Charleston	113	+0 07	+0 14	-2.6	0.0	0.9
43	New River Inlet	34 32	77 20	5 09	Charleston	113	-0 56	-0 54	-2.0	0.0	0.8
44	New Topsail Inlet	34 22	77 38	5 11	Charleston	113	-0 44	-0 39	-1.1	0.0	0.7
45	Masonboro Inlet	34 11	77 49	5 11	Charleston	113	-0 32	-0 28	-1.0	0.0	0.9
46	Carolina Beach	34 02	77 53	5 12	Charleston	113	-0 19	-0 16	-0.9	0.0	0.9
Cape Fear River and Branches.											
47	Bald Head, Cape Fear Light	33 52	78 00	5 12	Charleston	113	-0 07	-0 05	-0.8	0.0	0.9
48	Fort Caswell	33 54	78 01	5 12	Charleston	113	-0 05	-0 02	-0.7	0.0	0.9
49	Southport or Smithville	33 55	78 01	5 12	Charleston	113	-0 08	+0 01	-0.6	0.0	0.9
50	Federal Point	33 58	77 56	5 12	Charleston	113	+0 24	+0 42	-1.0	0.0	0.7
51	Reeves Point	34 00	77 57	5 12	Charleston	113	+0 39	+1 05	-1.2	0.0	0.7
52	Orton Point Post Light	34 03	77 56	5 12	Charleston	113	+1 03	+1 41	-1.4	0.0	0.7
53	Campbell Island Post Light	34 07	77 56	5 12	Wilmington	109	-0 52	-1 18	+0.8	0.0	1.1
54	Brunswick River Entrance	34 11	77 58	5 12	Wilmington	109	-0 25	-0 39	+0.4	0.0	1.1
55	Hospital Point Post Light	34 12	77 57	5 12	Wilmington	109	-0 19	-0 29	+0.3	0.0	1.0
56	WILMINGTON	34 14	77 57	5 12	Wilmington	109	0 00	0 00	0.0	0.0	1.0
57	Castle Hayne	34 21	77 56	5 12	Wilmington	109	+2 08	+2 11	-0.9	0.0	0.6
58	Bannermans Bridge	34 35	77 46	5 11	Wilmington	109	-5 48	-6 47	-1.1	0.0	0.9
59	Magnolia Quarry	34 52	78 02	5 12	Wilmington	109	+0 53	+1 11	-0.3	0.0	0.8
60	Point Caswell	34 27	78 11	5 13	Wilmington	109	+4 34	+4 50	-1.6	0.0	0.3
61	White Hall	34 30	78 28	5 14	Wilmington	109	-5 45	-5 37	-1.9	0.0	0.2

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	10 25	4 25	10 27a	4 09a	3.4	3.9	2.9	3.7	0.5	0.1		0.5	1.7	1.8	4.5
2	8 45	2 16	8 46a	2 00a	2.4	2.8	2.0	2.8	0.6	0.1		0.6	1.2	1.2	4.5
3	8 44	2 15	8 45a	1 59a	2.5	3.0	2.0	2.9	0.7	0.1	8 58	0.7	1.3	1.3	4.5
4	9 00	2 38	9 01a	2 22a	2.6	3.0	2.1	3.0	0.7	0.1		0.7	1.3	1.3	4.5
5	9 16	3 02	9 17a	2 45a	2.8	3.2	2.3	3.1	0.7	0.1		0.7	1.4	1.4	4.5
6	9 03	2 43	9 04a	2 25a	2.6	3.0	2.1	2.9	0.7	0.1		0.7	1.3	1.3	4.5
7	9 18	3 06	9 19a	2 47a	2.8	3.3	2.3	3.2	0.7	0.1		0.7	1.4	1.4	4.5
8	10 17	4 16	10 18a	3 58a	3.4	4.0	2.8	3.7	0.7	0.1		0.7	1.7	1.7	4.5
9	9 44	3 35	9 45a	3 17a	2.5	2.9	2.0	2.8	0.7	0.1		0.7	1.2	1.3	4.5
10	10 52	4 52	10 53a	4 34a	2.1	2.5	1.7	2.4	0.6	0.1		0.6	1.1	1.1	4.5
11	11 35	5 42	11 36a	5 24a	2.0	2.3	1.6	2.3	0.6	0.1		0.6	1.0	1.0	4.5
12	12 14	6 27	12 15a	6 09a	1.9	2.2	1.5	2.2	0.6	0.1		0.6	1.0	1.0	4.5
13	1 25	8 10	1 26b	7 52a	2.2	2.5	1.7	2.4	0.6	0.1		0.6	1.1	1.1	4.5
14	2 45	9 35	2 45b	9 17a	2.4	2.8	2.0	2.7	0.6	0.1		0.6	1.2	1.2	4.5
15	0 23	7 05	0 23b	6 47a	2.0	2.3	1.6	2.3	0.6	0.1		0.6	1.0	1.0	4.5
16	0 46	7 29	0 45b	7 11a	2.1	2.5	1.8	2.4	0.6	0.1		0.6	1.1	1.1	4.5
17	1 30	8 15	1 29b	7 57a	2.4	2.8	2.0	2.7	0.6	0.1		0.6	1.2	1.2	4.0
18	1 53	8 40	1 52b	8 21a	2.6	2.9	2.1	2.9	0.7	0.1		0.7	1.3	1.3	4.0
19	2 05	8 52	2 03b	8 33a	2.7	3.1	2.2	3.0	0.7	0.2		0.7	1.3	1.4	4.0
20	2 21	9 10	2 19b	8 50a	2.8	3.2	2.3	3.1	0.7	0.2		0.7	1.4	1.4	4.0
21	3 17	10 41	3 15b	10 21a	2.9	3.3	2.4	3.3	0.7	0.2		0.7	1.4	1.5	4.0
22	2 30	9 19	2 28b	8 59a	2.8	3.3	2.4	3.2	0.7	0.2		0.7	1.4	1.5	4.0
23	2 45	9 38	2 45b	9 18a	3.0	3.4	2.5	3.3	0.7	0.2		0.7	1.5	1.5	4.0
24	3 14	10 06	3 11b	9 45a	3.2	3.6	2.7	3.6	0.7	0.3		0.8	1.6	1.7	4.0
25	3 25	10 18	3 21b	9 57a	3.2	3.7	2.8	3.6	0.7	0.3		0.8	1.6	1.7	4.0
26	3 43	10 40	3 29b	10 18a	3.4	3.9	2.9	3.8	0.7	0.3		0.8	1.7	1.8	4.0
27	3 57	11 00	3 52b	10 38a	3.5	4.0	3.0	3.9	0.7	0.3		0.8	1.7	1.8	4.0
28	4 05	11 14	4 00b	10 52a	3.6	4.1	3.0	4.0	0.7	0.3		0.8	1.8	1.9	4.0
29	4 13	11 32	4 08b	11 10a	3.6	4.2	3.1	4.1	0.7	0.3		0.8	1.8	1.9	4.0
30	4 16	11 41	4 10b	11 18a	3.7	4.2	3.2	4.1	0.7	0.3		0.8	1.8	1.9	4.0
31	4 18	11 47	4 12b	11 24a	3.7	4.2	3.2	4.1	0.7	0.4		0.8	1.8	1.9	4.0
32	8 18	1 50	8 19a	1 34a	2.6	3.0	2.2	3.0	0.6	0.1		0.6	1.3	1.4	4.5
33	8 00	1 30	8 01a	1 14a	2.8	3.3	2.4	3.2	0.6	0.1		0.6	1.4	1.5	4.5
34	7 50	1 40	7 51a	1 24a	2.8	3.3	2.2	3.0	0.7	0.1		0.7	1.4	1.4	4.5
35	7 44	1 33	7 45a	1 17a	2.7	3.2	2.1	2.9	0.7	0.1		0.7	1.4	1.4	4.5
36	7 37	1 28	7 38a	1 10a	2.8	3.4	2.2	3.0	0.7	0.1		0.7	1.4	1.4	4.5
37	7 16	1 05	7 17a	0 49a	2.7	3.2	2.1	2.9	0.7	0.1		0.7	1.4	1.4	4.5
38	7 23	1 11	7 24a	0 55a	2.8	3.4	2.2	3.0	0.7	0.1		0.7	1.4	1.4	4.5
39	7 04	0 51	7 06a	0 32a	2.0	2.4	1.6	2.2	0.6	0.1		0.6	1.0	1.0	4.0
40	7 00	0 45	7 06a	0 32a	1.9	2.2	1.5	2.1	0.6	0.1		0.6	1.0	1.0	4.0
41	6 29	0 20	6 34a	0 05a	3.7	4.4	3.0	4.3	0.9	0.3		1.0	1.8	2.0	3.5
42	7 45	1 47	7 51a	1 30a	2.6	3.1	2.1	3.3	0.8	0.3		0.9	1.8	1.5	3.0
43	6 40	0 27	6 45a	0 10a	3.2	3.8	2.6	3.6	0.9	0.2		0.9	1.6	1.7	2.5
44	6 50	0 40	6 55a	0 25a	4.0	4.7	3.2	4.7	1.0	0.4		1.0	2.0	2.2	2.5
45	7 02	0 51	7 07a	0 37a	4.1	4.8	3.3	4.8	1.0	0.4		1.0	2.0	2.2	2.5
46	7 14	1 02	7 19a	0 48a	4.2	4.9	3.4	4.9	1.0	0.4		1.0	2.0	2.2	2.5
47	7 26	1 13	7 31a	0 59a	4.3	5.0	3.5	5.0	1.0	0.4		1.0	2.1	2.3	2.0
48	7 28	1 16	7 33a	1 06a	4.4	5.1	3.6	5.1	1.0	0.4		1.0	2.2	2.3	2.0
49	7 30	1 19	7 34a	1 13a	4.5	5.3	3.7	5.2	1.0	0.4		1.1	2.2	2.4	2.0
50	7 57	2 00	8 00a	1 58a	4.1	4.8	3.3	4.8	1.0	0.4		1.0	2.0	2.2	2.0
51	8 12	2 23	8 14a	2 25a	3.9	4.6	3.1	4.6	1.0	0.4		1.0	2.0	2.1	2.0
52	8 36	2 59	8 37a	3 05a	3.7	4.4	3.0	4.3	0.9	0.3		1.0	1.8	2.0	2.0
53	9 00	3 36	9 00a	3 46a	3.2	3.5	2.8	3.7	1.0	0.2		1.0	1.6	1.8	2.0
54	9 26	4 15	9 25a	4 30a	2.8	3.1	2.5	3.2	0.9	0.1		0.9	1.4	1.6	2.0
55	9 33	4 25	9 31a	4 42a	2.7	3.0	2.4	3.1	0.9	0.1		0.9	1.4	1.5	2.0
56	9 52	4 54	9 50a	5 16a	2.4	2.7	2.2	2.8	0.9	0.1	9 45	0.9	1.2	1.2	2.0
57	12 00	7 05	11 57b	7 34a	1.5	1.7	1.3	1.8	0.7	0.1		0.7	0.8	0.9	2.0
58	4 05	11 40	4 02b	12 09a	1.3	1.4	1.2	1.6	0.6	0.1		0.6	0.6	0.8	2.0
59	10 45	6 05	10 48b	6 29b	2.1	2.3	1.9	2.5	0.8	0.1		0.8	1.0	1.3	2.0
60	2 00	9 33	1 56b	10 11a	0.8	0.9	0.7	1.1	0.5	0.1		0.5	0.4	0.5	2.0
61	4 05	11 40	4 00b	12 30a	0.5	0.6	0.4	0.7	0.4	0.0		0.4	0.2	0.3	2.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.											
SOUTH CAROLINA.											
		North.	West.				Time meridian, 75° W.		Mean Low Water.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Little River	33 51	78 34	5 14	Charleston	113	-0 16	-0 15	-0.3	0.0	0.0
2	North Inlet	33 20	79 10	5 17	Charleston	113	-0 18	-0 02	-0.6	0.0	0.0
3	Georgetown Light, Winyah Bay	33 13	79 11	5 17	Charleston	113	+0 09	+0 39	-1.6	0.0	0.5
4	Georgetown, Winyah Bay	33 22	79 17	5 17	Charleston	113	+1 11	+2 25	-1.5	0.0	0.5
5	Cape Romain	33 01	79 21	5 17	Charleston	113	-0 29	-0 23	-0.1	0.0	0.5
6	Bull Bay	32 57	79 33	5 18	Charleston	113	-0 22	-0 22	-0.4	0.0	0.5
7	North Jetty, Charleston Har. Entr.	32 44	79 48	5 19	Charleston	113	-0 16	-0 46	+0.1	0.0	1.3
8	Fort Moultrie	32 45	79 52	5 19	Charleston	113	-0 10	-0 26	+0.5	0.0	1.3
9	Fort Sumter	32 45	79 52	5 19	Charleston	113	-0 09	-0 24	+0.3	0.0	1.3
10	Fort Johnson	32 45	79 54	5 20	Charleston	113	-0 05	-0 18	+0.6	0.0	1.3
11	Castle Pinckney Light	32 46	79 55	5 20	Charleston	113	-0 01	-0 01	+0.1	0.0	1.5
12	CHARLESTON, Custom-House Whf.	32 46	79 55	5 20	Charleston	113	0 00	0 00	0.0	0.0	1.5
13	Legareville, Stono River	32 40	80 00	5 20	Charleston	113	0 00	-0 15	-0.1	0.0	1.5
14	North Edisto River Entrance	32 34	80 11	5 21	Charleston	113	-0 16	-0 26	+0.7	0.0	1.5
15	Bluff Point, Wadmclaw River	32 39	80 15	5 21	Charleston	113	+0 16	+0 31	+1.4	0.0	1.5
16	S. Edisto R. Entr., St. Helena Id.	32 29	80 20	5 21	Savannah Entr.	117	+0 59	+0 50	-0.8	0.0	6.9
17	Salt Landing, South Edisto River	32 34	80 23	5 22	Savannah Entr.	117	+1 23	+1 36	-0.7	0.0	6.9
18	Coosaw R., Mining Co.'s Wharf.	32 31	80 40	5 23	Savannah Entr.	117	+2 39	+1 50	+0.7	0.0	6.9
19	Hunting I. Light, St. Helena Id.	32 23	80 25	5 22	Savannah Entr.	117	+1 02	+0 48	-0.8	0.0	6.9
20	Bell Buoy, Port Royal Entrance	32 08	80 35	5 22	Savannah Entr.	117	+0 38	+0 34	-0.4	0.0	6.9
21	Hilton Head, Port Royal Sound	32 14	80 40	5 23	Savannah Entr.	117	+1 01	+1 00	-0.5	0.0	6.9
22	Beaufort River Entrance	32 17	80 39	5 23	Savannah Entr.	117	+1 12	+1 02	-0.1	0.0	6.9
23	Dry Docks, Beaufort River	32 21	80 40	5 23	Savannah Entr.	117	+1 40	+1 30	+0.2	0.0	6.9
24	Port Royal, Battery Creek	32 22	80 41	5 23	Savannah Entr.	117	+1 46	+1 46	+0.3	0.0	6.9
25	Beaufort, Beaufort River	32 26	80 40	5 23	Savannah Entr.	117	+1 59	+2 01	+0.5	0.0	6.9
26	Eutaw Creek, Broad River	32 24	80 48	5 23	Savannah Entr.	117	+1 54	+1 55	+0.1	0.0	6.9
27	Braddock Point, Calibogue Sound	32 07	80 49	5 23	Savannah Entr.	117	+1 04	+1 05	0.0	0.0	6.9
GEORGIA.											
							Time meridian, 90° W.				
28	SAVANNAH ENTR., Tybee I. Light	32 02	80 51	5 23	Savannah Entr.	117	0 00	0 00	0.0	0.0	1.0
29	Fort Pulaski	32 02	80 53	5 21	Savannah Entr.	117	+0 08	+0 23	+0.1	0.0	1.0
30	Oglethorpe, Savannah River	32 05	81 02	5 24	Savannah Entr.	117	+0 49	+1 38	-0.2	0.0	0.8
31	Savannah, Savannah River	32 05	81 05	5 24	Savannah Entr.	117	+1 03	+2 03	-0.3	0.0	0.8
32	Wassaw Sound	31 55	80 58	5 24	Savannah Entr.	117	+0 14	+0 04	0.0	0.0	1.0
33	Ossabaw Sound	31 50	81 05	5 24	Savannah Entr.	117	+0 09	+0 25	-0.2	0.0	0.8
34	St. Catherine Sound	31 40	81 09	5 25	Savannah Entr.	117	+0 26	+0 28	+0.6	0.0	1.4
35	National Quar. Sta., Sapelo Sound	31 32	81 12	5 25	Savannah Entr.	117	+0 18	+0 04	+0.5	0.0	1.4
36	Sapelo Light, Doboy Sound	31 23	81 17	5 25	Savannah Entr.	117	+0 21	+0 21	+0.4	0.0	1.0
37	Atwood River, Doboy Sound	31 27	81 21	5 25	Savannah Entr.	117	+0 31	+0 31	+0.4	0.0	1.0
38	Altamaha Sound	31 18	81 18	5 25	Savannah Entr.	117	+0 31	+0 41	-0.4	0.0	0.8
39	Brunswick Outer Bar	31 06	81 19	5 25	Savannah Entr.	117	+0 09	+0 10	-0.5	0.0	0.8
40	St. Simon Light	31 08	81 24	5 26	Savannah Entr.	117	+0 22	+0 25	-0.4	0.0	0.8
41	Brunswick	31 09	81 30	5 26	Savannah Entr.	117	+0 52	+0 55	-0.1	0.0	0.8
42	Jekyll Island	31 04	81 25	5 26	Savannah Entr.	117	+0 43	+0 38	0.0	0.0	1.0
43	St. Andrew Sound	31 00	81 28	5 26	Savannah Entr.	117	+0 33	+0 36	0.0	0.0	1.0
FLORIDA.											
Eastern Coast.											
44	Fernandina, Fort Clinch	30 41	81 28	5 26	Fernandina	121	-0 14	-0 08	0.0	0.0	0.8
45	FERNANDINA, Dade St.	30 41	81 28	5 26	Fernandina	121	0 00	0 00	0.0	0.0	0.8
46	Nassau Sound	30 31	81 27	5 26	Fernandina	121	-0 19	-0 10	-0.6	0.0	0.8
47	Fort George Inlet	30 26	81 26	5 26	Fernandina	121	-0 17	-0 02	-0.6	0.0	0.8
48	St. Johns River, South Jetty	30 24	81 25	5 26	Fernandina	121	-0 24	-0 09	-1.4	0.0	0.7
49	Mayport, St. Johns River	30 23	81 26	5 26	Fernandina	121	-0 22	-0 03	-1.8	0.0	0.7
50	Hopkins, St. Johns River	30 23	81 30	5 26	Old Point Comfort	105	-1 20	-0 56	+0.5	0.0	1.2
51	Dame Point, St. Johns River	30 23	81 33	5 26	Old Point Comfort	105	-0 53	-0 32	-0.7	0.0	0.7
52	Reddie Point, St. Johns River	30 23	81 37	5 26	Old Point Comfort	105	-0 46	-0 24	-1.1	0.0	0.7
53	Jacksonville, St. Johns River	30 20	81 39	5 27	Old Point Comfort	105	-0 29	-0 12	-1.5	0.0	0.8
54	Mandarin, St. Johns River	30 10	81 39	5 27	Old Point Comfort	105	+0 59	+1 03	-1.8	0.0	0.8
55	Greencove Springs, St. Johns River	29 59	81 41	5 27	Old Point Comfort	105	+2 19	+2 18	-1.9	0.0	0.8
56	Tocoi, St. Johns River	29 51	81 33	5 26	Old Point Comfort	105	+3 43	+3 32	-1.7	0.0	0.8
57	Palatka, St. Johns River	29 39	81 38	5 27	Old Point Comfort	105	+5 21	+5 08	-1.4	0.0	0.4
58	St. Augustine Light	29 53	81 17	5 25	Charleston	113	-0 08	-0 05	-0.6	0.0	0.5
59	St. Augustine	29 54	81 18	5 25	Charleston	113	+0 01	+0 06	-0.9	0.0	0.8
60	Matanzas Inlet	29 42	81 13	5 25	Old Point Comfort	105	-1 48	-1 09	0.0	0.0	1.0
61	Mosquito Inlet Light	29 05	80 56	5 24	Old Point Comfort	105	-1 41	-1 08	-0.2	0.0	0.8
62	Cape Canaveral Light	28 28	80 32	5 22	Charleston	113	-0 23	-0 16	-0.1	0.0	0.9
63	Indian River Inlet	27 30	80 18	5 21	Key West	125	-1 56	-1 17	+0.5	0.0	1.4

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic. (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWL.	LWL.	HHWL.	LLWL.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	7 15	1 01	7 19a	0 48a	4.8	5.7	3.9	5.5	1.1	0.4	.....	1.1	2.4	2.5	1.5
2	7 10	1 11	7 15a	0 58a	4.5	5.3	3.7	5.2	1.0	0.4	.....	1.1	2.2	2.4	1.0
3	7 37	1 52	7 42a	1 23a	3.5	4.1	2.8	4.1	0.9	0.3	.....	1.0	1.8	1.9	1.0
4	8 39	3 38	8 44a	1 22a	3.6	4.3	2.9	4.2	0.9	0.3	.....	1.0	1.8	1.9	1.0
5	6 59	0 50	7 03a	0 38a	5.0	5.9	4.1	5.7	1.1	0.4	.....	1.1	2.5	2.7	1.0
6	7 05	0 50	7 09a	0 37a	4.7	5.6	3.8	5.4	1.0	0.4	.....	1.1	2.4	2.5	1.0
7	7 10	0 25	7 14a	0 13a	5.2	6.1	4.2	5.9	1.1	0.4	.....	1.2	2.6	2.8	0.5
8	7 16	0 45	7 20a	0 33a	5.6	6.6	4.5	6.3	1.1	0.4	.....	1.2	2.8	3.0	0.5
9	7 17	0 47	7 21a	0 35a	5.4	6.4	4.4	6.1	1.1	0.4	.....	1.2	2.7	2.9	0.5
10	7 20	0 52	7 24a	0 40a	5.7	6.7	4.6	6.4	1.1	0.4	.....	1.2	2.8	3.0	0.5
11	7 24	1 09	7 28a	0 56a	5.2	6.1	4.2	5.9	1.1	0.4	.....	1.2	2.6	2.8	0.5
12	7 25	1 10	7 29a	0 56a	5.2	6.1	4.2	5.8	1.2	0.3	8 27	1.2	2.6	2.7	0.5
13	7 25	0 55	7 29a	0 45a	5.0	5.9	4.1	5.7	1.1	0.4	.....	1.1	2.5	2.7	0.5
14	7 08	0 53	7 12a	0 43a	5.8	6.8	4.7	6.6	1.2	0.4	.....	1.2	2.9	3.1	0.5
15	7 40	1 40	7 44a	1 29a	6.5	7.7	5.3	7.3	1.2	0.5	.....	1.3	3.2	3.5	0.0
16	7 12	0 57	7 14a	0 47a	6.0	7.0	4.9	6.5	1.1	0.3	.....	1.1	3.0	3.0	0.0
17	7 35	1 42	7 37a	1 32a	6.1	7.1	4.9	6.6	1.1	0.3	.....	1.1	3.0	3.1	0.0
18	8 50	2 55	8 52a	2 46a	7.5	8.8	6.1	8.0	1.2	0.3	.....	1.3	3.8	3.8	0.0
19	7 14	0 54	7 16a	0 44a	6.0	7.0	4.9	6.5	1.1	0.3	.....	1.1	3.0	3.0	0.0
20	6 50	0 40	6 52a	0 29a	6.4	7.5	5.2	6.8	1.1	0.3	.....	1.2	3.2	3.2	0.0
21	7 12	1 05	7 14a	0 54a	6.3	7.4	5.1	6.8	1.1	0.3	.....	1.2	3.2	3.2	0.0
22	7 23	1 07	7 25a	0 57a	6.7	7.8	5.4	7.2	1.2	0.3	.....	1.2	3.4	3.4	0.0
23	7 51	1 35	7 53a	1 25a	7.0	8.2	5.7	7.5	1.2	0.3	.....	1.2	3.5	3.5	0.0
24	7 57	1 51	7 59a	1 41a	7.1	8.3	5.8	7.6	1.2	0.3	.....	1.2	3.6	3.6	0.0
25	8 10	2 06	8 12a	1 57a	7.3	8.5	5.9	7.8	1.2	0.3	.....	1.2	3.6	3.7	0.0
26	8 05	2 00	8 07a	1 50a	6.9	8.1	5.6	7.4	1.2	0.3	.....	1.2	3.4	3.5	0.0
27	7 15	1 10	7 17a	1 00a	6.8	8.0	5.5	7.3	1.2	0.3	.....	1.2	3.4	3.4	0.0
28	7 11	1 05	7 14a	1 16a	6.8	8.0	5.4	7.2	1.2	0.2	7 59	1.2	3.4	3.4	0.0
29	7 18	1 27	7 20a	1 17a	6.9	8.1	5.6	7.4	1.2	0.3	.....	1.2	3.4	3.5	0.0
30	7 59	2 42	8 01a	2 32a	6.6	7.7	5.4	7.1	1.2	0.3	.....	1.2	3.3	3.3	0.5
31	8 13	3 07	8 15a	2 57a	6.5	7.6	5.3	7.0	1.2	0.3	.....	1.2	3.2	3.3	0.5
32	7 24	1 08	7 26a	0 58a	6.8	8.0	5.5	7.3	1.2	0.3	.....	1.2	3.4	3.4	0.5
33	7 19	1 29	7 21a	1 19a	6.6	7.7	5.4	7.1	1.2	0.3	.....	1.2	3.3	3.3	0.5
34	7 39	1 35	7 39a	1 24a	7.4	8.5	5.9	7.8	1.2	0.3	.....	1.2	3.7	3.7	0.5
35	7 30	1 28	7 28a	1 34a	7.3	8.6	5.8	7.7	0.7	0.2	6 39	0.7	3.6	3.7	0.5
36	7 30	1 24	7 32a	1 14a	7.2	8.4	5.8	7.7	1.2	0.3	.....	1.2	3.6	3.6	1.0
37	7 40	1 34	7 42a	1 24a	7.2	8.4	5.8	7.7	1.2	0.3	.....	1.2	3.6	3.6	1.0
38	7 40	1 44	7 42a	1 33a	6.4	7.5	5.2	6.9	1.1	0.3	.....	1.2	3.2	3.2	1.0
39	7 18	1 13	7 20a	1 07a	6.3	7.5	5.2	6.7	1.2	0.3	.....	1.2	3.1	3.1	1.0
40	7 30	1 27	7 33a	1 13a	6.4	7.5	5.3	6.7	1.1	0.2	.....	1.2	3.2	3.1	1.0
41	8 00	1 57	8 02a	1 47a	6.7	7.8	5.4	7.2	1.2	0.3	.....	1.2	3.4	3.4	1.0
42	7 51	1 40	7 53a	1 30a	6.8	8.0	5.5	7.3	1.2	0.3	.....	1.2	3.4	3.4	1.0
43	7 41	1 38	7 43a	1 28a	6.8	8.0	5.5	7.3	1.2	0.3	.....	1.2	3.4	3.4	1.0
44	7 46	1 34	7 48a	1 22a	5.9	7.0	4.8	6.4	1.2	0.2	8 25	1.2	3.0	3.0	1.0
45	8 00	1 42	8 02a	1 30a	6.0	7.0	4.9	6.4	1.2	0.3	8 46	1.2	3.0	3.0	1.0
46	7 41	1 32	7 43a	1 20a	5.4	6.3	4.4	5.8	1.1	0.2	.....	1.1	2.7	2.7	1.0
47	7 43	1 40	7 45a	1 28a	5.4	6.3	4.4	5.8	1.1	0.2	.....	1.1	2.7	2.7	1.0
48	7 36	1 33	7 38a	1 21a	4.6	5.4	3.7	4.9	1.0	0.2	.....	1.0	2.3	2.3	1.0
49	7 38	1 39	7 47a	1 28a	4.2	5.0	3.5	4.6	1.0	0.2	.....	1.0	2.1	2.2	1.0
50	8 02	1 57	8 04a	1 40a	3.0	3.5	2.4	3.3	0.9	0.1	.....	0.9	1.5	1.5	1.5
51	8 29	2 21	8 32a	2 02a	1.8	2.1	1.5	2.0	0.6	0.1	.....	0.6	0.9	0.9	1.5
52	8 36	2 29	8 40a	2 05a	1.4	1.6	1.1	1.6	0.6	0.1	.....	0.6	0.7	0.7	1.5
53	8 52	2 40	8 56a	2 22a	1.0	1.2	0.8	1.2	0.5	0.1	.....	0.5	0.5	0.5	1.5
54	10 20	3 55	10 24a	3 38a	0.7	0.9	0.6	0.9	0.4	0.1	.....	0.4	0.4	0.4	1.5
55	11 40	5 10	11 44a	4 55a	0.6	0.8	0.5	0.8	0.3	0.1	.....	0.3	0.4	0.4	1.5
56	0 40	6 25	0 44a	6 08a	0.8	1.0	0.7	1.1	0.4	0.1	.....	0.4	0.4	0.4	1.5
57	2 17	8 00	2 22a	7 42a	1.1	1.3	0.9	1.3	0.5	0.1	.....	0.5	0.6	0.6	1.5
58	8 12	2 00	8 14a	1 47a	4.5	5.3	3.6	4.8	1.0	0.2	.....	1.0	2.2	2.3	1.0
59	8 21	2 11	8 23a	1 57a	4.2	5.0	3.4	4.5	1.0	0.2	.....	1.0	2.1	2.1	1.0
60	7 35	1 45	7 38a	1 27a	2.5	3.0	2.0	2.7	0.7	0.1	.....	0.8	1.2	1.3	1.0
61	7 43	1 47	7 46a	1 29a	2.3	2.7	1.9	2.5	0.7	0.1	.....	0.7	1.2	1.2	1.0
62	8 00	1 52	8 03a	1 39a	5.0	5.9	4.0	5.4	1.1	0.2	.....	1.1	2.5	2.5	1.0
63	7 30	1 25	7 33a	1 05a	1.7	2.0	1.4	1.9	0.6	0.1	.....	0.6	0.8	0.9	1.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.					
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Rate of range.	
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.		
NORTH AMERICA (EAST COAST)—Continued.												
FLORIDA—continued.												
Eastern Coast—Continued.		North.	West.				Time meridian, 90° W.		Mean Low Water.			
		o	o	h. m.			h. m.	h. m.	feet.	feet.		
1	Jupiter Inlet Light.....	26 57	80 05	5 20	Key West.....	125	-1 27	-0 43	+0.3	0.0	1.5	
2	Lake Worth Inlet.....	26 48	80 02	5 20	Key West.....	125	-1 24	-0 39	+0.4	0.0	1.3	
3	Hillsboro Inlet.....	26 15	80 05	5 20	Key West.....	125	-1 07	-0 20	+0.5	6.3	1.2	
4	Miami, Key Biscayne Bay.....	25 46	80 11	5 21	Key West.....	125	+0 04	+1 14	-0.1	0.0	0.2	
Florida Reefs.												
5	Cape Florida, Key Biscayne.....	25 40	80 09	5 21	Key West.....	125	-1 02	-0 18	+0.5	0.0	1.41	
6	Fowey Rocks Light.....	25 35	80 06	5 20	Key West.....	125	-1 07	-0 27	+0.8	0.0	1.6	
7	Point Elizabeth, Key Largo.....	25 14	80 19	5 21	Key West.....	125	-1 01	-0 24	+1.1	0.0	1.4	
8	Carysfort Reef Light.....	25 13	80 13	5 21	Key West.....	125	-1 05	-0 34	+0.9	0.0	1.74	
9	Alligator Reef Light.....	24 51	80 37	5 22	Key West.....	125	-1 03	-0 41	+0.8	0.0	1.6	
10	Indian Key.....	24 53	80 41	5 23	Key West.....	125	-1 01	-0 42	+0.6	0.0	1.4	
11	Tom Harbor Keys.....	24 46	80 56	5 24	Key West.....	125	-1 11	-0 53	+0.4	0.0	1.2	
12	Bamboo Key.....	24 45	81 00	5 24	Key West.....	125	+5 21	+6 23	0.0	0.0	1.3	
13	Knights Key.....	24 42	81 07	5 24	Key West.....	125	-0 56	-0 31	+0.2	0.0	1.1	
14	Sombrero Key Light.....	24 38	81 07	5 24	Key West.....	125	-0 59	-0 34	+0.3	0.0	1.24	
15	Bahia Honda, south side.....	21 40	81 16	5 25	Key West.....	125	-1 06	-0 36	+0.3	0.0	1.24	
16	American Shoal Light.....	21 31	81 31	5 26	Key West.....	125	-0 49	-0 24	+0.4	0.0	1.2	
17	Sand Key Light.....	21 27	81 53	5 28	Key West.....	125	-0 39	-0 15	0.0	0.0	0.9	
18	Key West, Fort Taylor.....	24 33	81 49	5 27	Key West.....	125	0 00	0 00	0.0	0.0	1.9	
19	Northwest Passage Light.....	24 37	81 54	5 28	Key West.....	125	+2 00	+2 30	+1.3	0.0	2.0	
20	Marquesas Keys.....	24 33	82 07	5 28	Key West.....	125	-0 09	+0 21	0.0	0.0	1.0	
21	Rebecca Shoal Light.....	24 35	82 35	5 30	Key West.....	125	+0 13	+0 39	-0.1	0.0	0.9	
22	Tortugas Harbor Light.....	24 38	82 53	5 32	Key West.....	125	+0 29	+0 50	-0.1	0.0	0.9	
23	Content Keys.....	24 48	81 30	5 26	Key West.....	125	+2 07	+3 00	+2.4	0.0	3.0	
Gulf of Mexico.												
24	Cape Sable, East Cape.....	25 07	81 05	5 24	Key West.....	125	+4 07	+4 47	+1.7	0.0	2.2	
25	Lossmans River.....	25 32	81 12	5 25	Key West.....	125	+3 49	+4 30	+2.5	0.0	3.1	
26	Pavilion Key.....	25 42	81 21	5 25	Key West.....	125	+3 39	+4 17	+2.3	0.0	2.2	
27	Round Key.....	25 50	81 31	5 26	Key West.....	125	+3 29	+4 09	+2.2	0.0	2.3	
28	Cape Romano.....	25 51	81 41	5 27	Key West.....	125	+3 20	+4 00	+1.4	0.0	2.1	
29	Big Marco Pass.....	25 58	81 45	5 27	Key West.....	125	+3 10	+3 49	+1.1	0.0	1.9	
30	Sanibel I. Light, San Carlos Entr.....	26 27	82 01	5 28	Key West.....	125	+2 58	+3 35	+0.6	0.0	1.3	
31	Puntarasa, San Carlos Bay.....	26 29	82 00	5 28	Key West.....	125	+3 00	+3 37	+0.4	0.0	1.2	
32	Boca Grande, Charlotte Harbor.....	26 43	82 16	5 29	Key West.....	125	+3 49	+3 45	-0.1	0.0	0.9	
33	Punta Gorda, Charlotte Harbor.....	26 55	82 05	5 28	Key West.....	125	+5 06	+5 05	+0.2	0.0	1.1	
34	Sarasota Point.....	27 17	82 34	5 30	Halifax.....	57	+4 01	+3 11	-3.2	-0.4	0.3	
35	Egmont Key Light, Tampa Bay.....	27 36	82 46	5 31	Halifax.....	57	+3 19	+2 41	-3.4	-0.4	0.3	
36	Palma Sola, Manatee R., Tampa B.....	27 31	82 37	5 30	Halifax.....	57	+3 41	+2 53	-3.2	-0.4	0.3	
37	St. Petersburg, Tampa Bay.....	27 46	82 38	5 31	Halifax.....	57	+4 15	+4 22	-2.8	-0.4	0.4	
38	Tampa, Hillsboro Bay, Tampa Bay.....	27 57	82 27	5 30	Halifax.....	57	+5 31	+6 23	-2.6	-0.4	0.3	
39	Dunedin, St. Josephs Sound.....	28 01	82 48	5 31	Halifax.....	57	+4 02	+3 54	-3.0	-0.4	0.4	
40	Anclote Keys Light.....	28 10	82 51	5 31	Halifax.....	57	+3 07	+2 39	-2.8	-0.4	0.4	
41	Bayport.....	28 32	82 39	5 31	Halifax.....	57	+4 46	+5 10	-2.4	-0.4	0.6	
42	Cedar Keys.....	29 08	83 02	5 32	Halifax.....	57	+4 55	+4 48	-2.4	-0.4	0.6	
43	Suwanee River Entrance.....	29 17	83 09	5 33	Halifax.....	57	+4 52	+4 22	-2.4	-0.4	0.3	
44	Pepperfish Keys.....	29 30	83 22	5 33	Halifax.....	57	+4 25	+3 56	-2.7	-0.4	0.4	
45	Steinhatchee River, Deadman Bay.....	29 40	83 24	5 34	Halifax.....	57	+5 15	+4 46	-2.8	-0.4	0.4	
46	Point Edward.....	29 44	83 32	5 34	Halifax.....	57	+5 05	+4 03	-2.8	-0.4	0.4	
47	Rock Island.....	29 58	83 50	5 35	Halifax.....	57	+4 44	+4 11	-2.4	-0.4	0.3	
48	Ocilla River Entrance.....	30 05	84 00	5 36	Halifax.....	57	+5 17	+4 44	-2.4	-0.4	0.3	
49	St. Marks Light, Apalachee Bay.....	30 04	84 11	5 37	Halifax.....	57	+5 47	+5 26	-2.3	-0.4	0.3	
50	St. Marks, St. Marks River.....	30 09	84 12	5 37	Halifax.....	57	+6 18	+6 10	-2.8	-0.4	0.4	
51	Ocklockonee Point.....	29 58	84 20	5 37	Halifax.....	57	+5 18	+4 35	-2.4	-0.4	0.3	
52	Dog Island, St. Georges Sound.....	29 47	84 40	5 39	Galveston.....	129	+3 39	-0 59	+1.1	-0.3	1.3	
53	Apalachicola, Apalachicola Bay.....	29 43	84 59	5 40	Galveston.....	129	+2 50	-1 15	+0.7	-0.3	1.6	
54	St. Vincents Island, West Pass.....	29 38	85 06	5 40	Galveston.....	129	+2 11	-1 39	+0.6	-0.2	1.3	
55	Cape San Blas.....	29 40	85 22	5 41	Galveston.....	129	+1 49	-1 50	+0.4	-0.2	1.4	
56	St. Josephs, St. Josephs Bay.....	29 48	85 18	5 41	Galveston.....	129	+2 14	-1 51	+0.4	-0.2	1.4	
57	St. Andrews, St. Andrews Bay.....	30 10	85 41	5 43	Galveston.....	129	+2 16	-1 38	+0.4	-0.2	1.3	
58	East Pass, Choctawhatchee Bay.....	30 23	86 29	5 46	Galveston.....	129	+2 03	-1 17	+0.2	-0.2	1.2	
59	Fort Pickens, Pensacola Bay.....	30 20	87 17	5 49	Galveston.....	129	+1 58	-1 52	0.0	-0.2	1.0	
60	Warrington Navy Yd., Pensacola B.....	30 21	87 16	5 49	Galveston.....	129	+2 03	-1 51	0.0	-0.2	1.0	
61	Pensacola, Pensacola Bay.....	30 24	87 13	5 49	Galveston.....	129	+2 25	-1 53	+0.2	-0.2	1.2	
62	Bohemia, Escambia B., Pensacola B.....	30 29	87 10	5 49	Galveston.....	129	+2 50	-1 08	0.0	-0.2	1.1	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i>
1	8 00	2 00	8 04a	1 37a	1.5	1.8	1.2	1.7	0.6	0.1	.....	0.6	0.8	0.8	1.5
2	8 03	2 04	8 06a	1 42a	1.6	1.9	1.3	1.8	0.6	0.1	.....	0.6	0.8	0.8	1.5
3	8 20	2 23	8 23a	2 03a	1.7	2.0	1.4	1.9	0.6	0.1	.....	0.6	0.8	0.9	1.5
4	9 30	8 56	9 34a	8 30a	1.1	1.8	0.9	1.8	0.5	0.1	.....	0.5	0.6	0.6	1.5
5	8 24	2 29	8 12b	8 10a	1.7	2.2	1.1	2.2	1.0	0.3	.....	1.1	0.8	1.0	1.5
6	8 20	2 16	8 09b	2 54a	2.0	2.6	1.3	2.6	1.1	0.4	.....	1.2	1.0	1.2	1.5
7	8 25	2 18	8 14b	2 54a	2.3	2.9	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	2.0
8	8 21	2 08	8 10b	2 44a	2.1	2.7	1.4	2.7	1.1	0.4	.....	1.2	1.0	1.2	2.0
9	8 22	2 00	8 11b	2 38a	2.0	2.6	1.3	2.6	1.1	0.4	.....	1.2	1.0	1.2	2.0
10	8 23	1 58	8 11b	2 36a	1.8	2.8	1.2	2.4	1.1	0.3	.....	1.1	0.9	1.0	2.0
11	8 12	1 46	7 59b	2 29a	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	2.0
12	2 19	8 56	2 04a	9 45b	1.3	1.7	0.9	1.8	0.9	0.3	.....	1.0	0.6	0.8	2.0
13	8 27	2 08	8 14b	2 53a	1.4	1.8	0.9	1.9	0.9	0.3	.....	1.0	0.7	0.8	2.0
14	8 24	2 05	8 11b	2 47a	1.5	1.9	1.0	2.0	1.0	0.3	.....	1.0	0.8	0.9	2.0
15	8 16	2 02	8 03b	2 44a	1.5	1.9	1.0	2.0	1.0	0.3	.....	1.0	0.8	0.9	2.5
16	8 32	2 13	8 19b	2 56a	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	2.5
17	8 40	2 20	8 26b	3 07a	1.2	1.5	0.8	1.7	0.9	0.3	.....	0.9	0.6	0.7	2.5
18	9 20	2 36	8 44b	3 22a	1.2	1.6	0.9	1.9	0.9	0.6	18 43	1.2	0.6	0.9	2.5
19	11 19	5 05	11 00b	5 33a	2.6	3.2	1.7	3.1	1.2	0.4	.....	1.3	1.2	1.4	2.5
20	9 10	2 56	8 56b	3 43a	1.2	1.5	0.8	1.7	0.9	0.3	.....	0.9	0.6	0.7	2.5
21	9 30	3 12	8 37b	4 02a	1.1	1.4	0.7	2.1	1.0	1.0	.....	1.5	0.6	1.0	3.0
22	9 44	3 21	8 47b	4 14a	1.1	1.4	0.8	2.1	1.0	1.0	18 41	1.5	0.6	1.1	3.0
23	11 28	5 37	11 20b	6 06a	3.6	4.6	2.4	4.4	1.5	0.5	.....	1.6	1.8	2.0	2.5
24	1 05	7 26	0 56a	7 56a	2.9	3.7	1.9	3.6	1.3	0.4	.....	1.4	1.4	1.6	2.0
25	0 46	7 08	0 38a	7 34a	3.7	4.7	2.5	4.5	1.5	0.5	.....	1.6	1.8	2.0	2.0
26	0 36	6 55	0 27a	7 23a	3.5	4.5	2.3	4.3	1.5	0.5	.....	1.6	1.8	2.0	2.0
27	0 25	6 46	0 17a	7 14a	3.4	4.4	2.3	4.2	1.5	0.5	.....	1.5	1.7	1.9	2.0
28	0 15	6 36	0 06a	7 10a	2.6	3.3	1.7	3.3	1.3	0.4	.....	1.4	1.3	1.5	2.0
29	0 05	6 25	-0 06a	7 01a	2.3	2.9	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	2.0
30	12 17	6 10	12 05b	6 48a	1.8	2.3	1.2	2.4	1.1	0.3	.....	1.1	0.9	1.0	2.5
31	12 19	6 12	12 06b	6 55a	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	2.5
32	0 42	6 19	0 26a	7 11a	1.1	1.4	0.7	1.5	0.8	0.3	.....	0.9	0.6	0.7	2.5
33	2 00	7 40	1 47a	8 25a	1.4	1.8	0.9	1.9	0.9	0.3	.....	1.0	0.7	0.8	2.0
34	12 15	5 38	11 19b	6 08a	1.5	2.0	0.9	2.4	0.8	1.4	.....	1.6	0.8	1.3	2.5
35	11 32	5 07	10 33b	5 39a	1.4	1.8	0.9	2.3	0.8	1.3	.....	1.6	0.7	1.2	2.5
36	11 55	5 20	11 00b	5 50a	1.6	2.1	1.0	2.5	0.8	1.4	.....	1.7	0.8	1.4	2.5
37	0 03	6 48	11 39b	7 15a	2.0	2.6	1.2	3.0	0.9	1.6	.....	1.9	1.0	1.7	2.5
38	1 20	8 50	0 33a	9 15a	2.2	2.9	1.4	3.3	0.9	1.7	.....	2.0	1.1	1.8	2.0
39	12 15	6 20	11 23b	6 48a	1.8	2.4	1.1	2.8	0.9	1.5	.....	1.8	0.9	1.5	2.0
40	11 20	5 05	10 31b	5 32a	2.0	2.6	1.2	3.0	0.9	1.6	.....	1.9	1.0	1.7	2.0
41	0 34	7 36	-0 12a	8 01a	2.4	3.2	1.5	3.5	1.0	1.8	.....	2.1	1.2	1.9	2.0
42	0 42	7 13	-0 03a	7 37a	2.4	3.1	1.5	3.5	1.0	1.7	21 18	2.1	1.2	1.9	2.5
43	0 38	6 46	-0 09a	7 11a	2.3	3.0	1.4	3.4	1.0	1.7	.....	2.1	1.2	1.8	2.5
44	0 11	6 20	-0 38a	6 47a	2.1	2.8	1.3	3.1	0.9	1.6	.....	2.0	1.0	1.8	2.5
45	1 06	7 09	0 11a	7 36a	2.0	2.6	1.2	3.0	0.9	1.6	.....	1.9	1.0	1.7	2.5
46	0 50	6 26	-0 02a	6 54a	1.9	2.5	1.2	2.9	0.9	1.6	.....	1.9	1.0	1.6	2.5
47	0 28	6 33	-0 19a	6 58a	2.3	3.0	1.4	3.4	1.0	1.7	.....	2.1	1.2	1.8	2.5
48	1 00	7 05	0 14a	7 30a	2.4	3.2	1.5	3.5	1.0	1.8	.....	2.1	1.2	1.9	2.5
49	1 29	7 46	0 30a	8 03a	2.5	3.2	1.5	3.6	0.8	2.0	21 26	2.2	1.2	2.1	3.0
50	2 00	8 30	1 11a	8 57a	2.0	2.6	1.2	3.0	0.9	1.6	.....	1.9	1.0	1.7	3.0
51	1 00	7 05	0 13a	7 30a	2.3	3.0	1.4	3.4	1.0	1.7	.....	2.1	1.2	1.8	3.0
52	[0 20]	[6 25]	-1 10a	9 44a	[1.2]	[1.7]	[0.6]	2.9	.....	.....	.....	2.2	1.0	1.4	3.0
53	[12 10]	[5 35]	10 25b	9 27a	[0.8]	[1.1]	[0.4]	2.5	.....	.....	.....	2.1	0.8	1.2	3.5
54	[11 30]	[5 15]	9 46b	9 03a	[0.6]	[0.8]	[0.3]	2.3	.....	.....	.....	2.0	0.8	1.1	3.5
55	[11 10]	[4 55]	9 23b	8 51a	[0.4]	[0.6]	[0.2]	2.1	.....	.....	.....	1.9	0.7	1.0	3.5
56	[11 30]	[5 05]	9 48b	8 50a	[0.5]	[0.7]	[0.2]	2.2	.....	.....	.....	1.9	0.7	1.1	3.5
57	[11 35]	[5 05]	9 48b	9 01a	[0.3]	[0.4]	[0.1]	2.0	.....	.....	.....	1.8	0.7	1.0	3.5
58	[11 25]	[5 10]	9 32b	9 19a	[0.2]	[0.3]	[0.1]	1.9	.....	.....	.....	1.8	0.6	0.9	4.0
59	[11 23]	[4 19]	9 24b	8 41a	[0.1]	[0.1]	[0.0]	1.6	.....	.....	.....	1.6	0.5	0.8	4.5
60	[11 28]	[4 20]	9 29b	8 42a	[0.1]	[0.2]	[0.1]	1.7	.....	.....	21 33	1.7	0.5	0.8	4.5
61	[11 43]	[4 34]	9 51b	8 40a	[0.1]	[0.1]	[0.0]	1.8	.....	.....	.....	1.7	0.6	0.9	4.5
62	[12 15]	[5 03]	10 16b	9 25a	[0.1]	[0.1]	[0.0]	1.7	.....	.....	.....	1.7	0.5	0.8	4.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.	
NORTH AMERICA (EAST COAST)—Continued.											
ALABAMA.		North.	West.	h. m.			Time meridian. 90° W.		Mean Low Water.		
		° ' "	° ' "	° ' "			h. m.	h. m.	feet.	feet.	
1	Perdido Entrance, Alabama Point	30 17	87 33	5 50	Galveston	129	+2 13	-1 31	+0.4	-0.2	1.33
2	Mobile Point Light, Mobile Bay	30 14	88 01	5 52	Galveston	129	+1 56	-1 50	-0.2	-0.2	1.00
3	Great Point Clear, Mobile Bay	30 29	87 56	5 52	Galveston	129	+4 12	-0 20	+0.8	-0.2	1.67
4	Mobile, Mobile River.	30 41	88 02	5 52	Galveston	129	+4 50	+0 16	+0.4	-0.2	1.40
MISSISSIPPI.											
5	Horn Island Light	30 13	88 32	5 54	Galveston	129	+2 52	-0 52	+0.4	-0.2	1.47
6	Pascagoula Light	30 21	88 34	5 54	Galveston	129	+1 31	-2 40	+0.5	-0.3	1.50
7	Biloxi Light	30 24	88 54	5 56	Galveston	129	+2 35	-2 18	+0.5	-0.3	1.57
8	Cat Island Light	30 14	89 09	5 57	Galveston	129	+3 06	-1 58	+0.4	-0.2	1.47
LOUISIANA.											
9	Lake Borgne, The Rigollets	30 09	89 38	5 59	Galveston	129	+4 44	+2 42	-0.2	0.0	0.83
10	Chandeleur Light	30 03	88 52	5 55	Galveston	129	+1 58	-2 53	+0.2	-0.2	1.30
11	Pass a Loutre Light, Mississippi R.	29 12	89 02	5 56	Galveston	129	+1 06	-2 55	0.0	-0.2	1.07
12	Port Eads, South Pass, Miss. R.	29 01	89 10	5 57	Galveston	129	+0 57	-3 21	0.0	-0.2	1.15
13	Southwest Pass Light, Miss. R.	28 54	89 24	5 58	Galveston	129	+1 05	-3 28	+0.2	-0.2	1.17
14	Head of Passes Lt., Mississippi R.	29 09	89 15	5 57	Galveston	129	+1 20	-3 13	-0.2	-0.2	0.98
15	Barataria Bay Light	29 17	89 57	6 00	Galveston	129	+1 21	-3 27	+0.4	-0.2	1.47
16	Grand Pass, Timbalier Light	29 03	90 21	6 01	Galveston	129	+6 54	-5 08	+0.2	-0.4	1.33
17	Wine Island, Terrebonne Bay	29 05	90 35	6 02	Galveston	129	+7 20	-4 46	0.0	-0.2	1.20
18	Isle Derniere, or Last Island	29 04	90 57	6 04	Galveston	129	+7 36	-4 11	+0.4	-0.4	1.50
19	Ship Shoal Light	28 55	91 04	6 04	Galveston	129	+7 44	-4 09	+0.4	-0.4	1.57
20	Southwest Reef Lt., Atchafalaya B.	29 24	91 30	6 06	Galveston	129	+8 15	-3 44	+0.2	-0.4	1.30
21	Atchafalaya River Entrance	29 28	91 16	6 05	Galveston	129	-2 38	-2 18	0.0	-0.2	1.07
22	Salt Point, Cote Blanche Bay	29 34	91 32	6 06	Galveston	129	-2 39	-2 06	+0.2	-0.2	1.17
23	Cote Blanche, Cote Blanche Bay	29 44	91 43	6 07	Galveston	129	-1 24	-0 45	0.0	-0.2	1.12
24	Southwest Pass, Vermilion Bay	29 35	92 02	6 08	Galveston	129	-3 49	-3 09	+0.4	-0.4	1.33
25	Mormontau River Entrance.	29 45	93 04	6 12	Key West	125	+5 52	+6 31	0.0	0.0	0.93
26	Calcasieu Light.	29 47	93 21	6 13	Key West	125	+6 10	+6 53	+0.4	0.0	1.24
27	Sabine Pass Light	29 43	93 51	6 15	Key West	125	+7 12	+7 50	-0.4	0.0	0.93
TEXAS.											
28	Bolivar Point Light	29 22	94 46	6 19	Galveston	129	+0 25	+0 12	+0.2	0.0	1.07
29	GALVESTON, Doswell's Wharf	29 19	94 47	6 19	Galveston	129	0 00	0 00	0.0	0.0	1.00
30	Morgans Point, Galveston Bay	29 41	94 58	6 20	Galveston	129	+3 16	+2 24	-0.7	+0.1	0.47
31	Brazos River Entrance	28 56	95 18	6 21	Galveston	129	-0 07	+0 03	0.0	0.0	1.07
32	Pass Cavallo, Matagorda Bay	28 22	96 24	6 26	Galveston	129	+0 18	+0 25	0.0	0.0	1.07
33	Aransas Pass Light.	27 52	97 03	6 28	Galveston	129	+0 10	+0 15	0.0	0.0	1.07
34	Corpus Christi Pass.	27 36	97 13	6 29	Galveston	129	-0 09	-0 04	0.0	0.0	1.07
35	Brazos Santiago Light	26 04	97 10	6 29	Galveston	129	-1 38	-2 16	-0.4	0.0	0.73
36	Rio Grande Entrance	25 57	97 09	6 29	Galveston	129	-2 10	-2 18	-0.2	0.0	0.93
MEXICO.											
Gulf of Mexico.							Local time.				
37	Tampico	22 10	97 49	6 31	Galveston	129	-0 19	-2 30	-0.2	0.0	0.87
38	Vera Cruz	19 12	96 08	6 25	Galveston	129	+0 04	-2 25	+0.6	-0.4	1.60
39	Arucas Cays	20 15	91 58	6 08	Galveston	129	-3 01	-5 13	0.0	-0.2	1.07
40	Triangles.	20 54	92 08	6 09	Galveston	129	-3 10	-5 18	0.0	-0.2	1.07
41	Laguna de Terminos	18 36	91 58	6 08	Galveston	129	-2 54	-5 03	0.0	-0.2	1.07
42	Campeche	19 50	90 32	6 02	Galveston	129	-2 16	-1 09	+1.2	-0.8	2.40
43	Sisal	21 10	90 03	6 00	Key West	125	+1 34	+2 06	+0.2	0.0	1.17
44	Cape Catoche.	21 32	87 04	5 48	Key West	125	+0 32	+1 05	0.0	0.0	0.93
45	Mugeres Harbor.	21 14	86 52	5 47	Key West	125	+0 21	+0 53	0.0	0.0	1.07
46	Cozumel	20 28	86 48	5 47	Key West	125	-0 39	-0 07	0.0	0.0	0.93
BELIZE.											
47	Belize	17 33	88 14	5 53	Key West	125	-0 46	-0 12	0.0	0.0	0.99
GUATEMALA.											
Caribbean Sea.											
48	Dulce River Entrance	15 50	88 45	5 55	Key West	125	+0 14	+0 48	+0.4	0.0	1.33
HONDURAS.											
Caribbean Sea.											
49	Roatan Island	16 23	86 28	5 46	Key West	125	-1 11	-0 39	+1.6	0.0	2.23
50	Bonacca Island	16 29	85 54	5 44	Key West	125	+0 04	+0 36	0.0	0.0	0.93

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
1	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
2	[11 25]	[5 05]	9 38b	9 01a	[0.3]	[0.4]	[0.1]	2.0	-----	-----	-----	1.8	0.7	1.0	4.5
3	[11 25]	[3 09]	9 19b	8 40a	[0.1]	[0.2]	[0.1]	1.5	-----	-----	21 24	1.5	0.4	0.7	4.5
4	[0 50]	[6 30]	-0 50a	10 10a	[1.0]	[1.4]	[0.6]	2.5	-----	-----	-----	2.1	0.9	1.2	4.5
	[1 35]	[6 50]	12 13b	10 46a	[0.5]	[0.7]	[0.2]	2.1	-----	-----	-----	1.9	0.7	1.0	4.5
5	[12 00]	[5 40]	10 13b	9 38a	[0.3]	[0.4]	[0.1]	2.0	-----	-----	-----	1.8	0.7	1.0	5.0
6	[0 20]	[5 45]	8 52b	7 48a	[0.4]	[0.6]	[0.1]	2.3	-----	-----	-----	2.2	0.7	1.1	5.0
7	[1 01]	[6 00]	9 54b	8 08a	[0.3]	[0.4]	[0.0]	2.3	-----	-----	21 29	2.2	0.7	1.1	5.0
8	[0 23]	[6 35]	10 24b	8 27a	[0.3]	[0.3]	[0.2]	2.1	-----	-----	21 52	2.0	0.7	1.0	5.0
9	[3 10]	[9 45]	12 00b	0 40b	[0.3]	[0.4]	[0.2]	1.4	-----	-----	-----	1.4	0.5	0.7	5.5
10	[11 53]	[5 33]	9 18b	7 34a	[0.2]	[0.3]	[0.1]	1.8	-----	-----	-----	1.9	0.6	0.9	5.0
11	[11 15]	[5 00]	8 25b	7 31a	[0.1]	[0.1]	[0.0]	1.6	-----	-----	-----	1.7	0.5	0.8	5.0
12	[10 55]	[4 42]	8 15b	7 04a	[0.1]	[0.2]	[0.1]	1.7	-----	-----	20 07	1.7	0.5	0.8	5.0
13	[10 54]	[4 41]	8 22b	6 56a	[0.2]	[0.3]	[0.1]	1.9	-----	-----	-----	1.8	0.6	0.9	5.0
14	[11 30]	[4 30]	8 38b	7 12a	[0.1]	[0.1]	[0.0]	1.4	-----	-----	-----	1.6	0.4	0.7	5.0
15	[11 00]	[4 47]	8 36b	6 55a	[0.4]	[0.5]	[0.2]	2.1	-----	-----	-----	1.9	0.7	1.0	5.5
16	[11 50]	[6 38]	1 43a	5 13a	[0.4]	[0.5]	[0.3]	2.0	-----	-----	-----	1.6	0.5	0.8	5.5
17	[12 10]	[6 00]	2 08a	5 34a	[0.3]	[0.3]	[0.3]	1.8	-----	-----	-----	1.5	0.5	0.7	5.5
18	[0 15]	[6 30]	2 22a	6 07a	[0.7]	[0.8]	[0.6]	2.3	-----	-----	-----	1.7	0.6	0.8	6.0
19	[0 18]	[6 33]	2 30a	6 09a	[0.6]	[0.7]	[0.5]	2.2	-----	-----	-----	1.7	0.6	0.8	6.0
20	[0 40]	[6 56]	2 58a	6 31a	[0.5]	[0.6]	[0.4]	2.0	-----	-----	-----	1.6	0.5	0.8	6.0
21	[2 00]	[8 25]	4 31b	7 58a	[0.4]	[0.5]	[0.3]	1.6	-----	-----	-----	1.4	0.5	0.7	6.0
22	[2 05]	[8 35]	4 29b	8 09a	[0.7]	[0.8]	[0.6]	1.9	-----	-----	-----	1.6	0.6	0.8	6.0
23	[3 20]	[9 55]	5 43b	9 29a	[0.6]	[0.7]	[0.5]	1.8	-----	-----	-----	1.5	0.5	0.7	6.0
24	[1 10]	[7 27]	3 17b	7 04a	[1.0]	[1.1]	[0.9]	2.3	-----	-----	-----	1.7	0.6	0.8	6.5
25	2 00	8 20	3 25b	7 36a	1.2	1.4	1.0	2.2	0.4	1.2	-----	1.3	0.6	1.0	7.0
26	2 17	8 41	3 34b	8 22a	1.5	1.7	1.3	2.0	0.4	1.2	-----	1.2	0.8	0.9	7.0
27	3 17	9 36	4 42b	9 17a	0.7	0.9	0.6	1.2	0.3	0.6	-----	0.7	0.4	0.5	7.0
28	[4 07]	[10 23]	7 20b	10 14a	[0.7]	[0.8]	[0.6]	1.6	-----	-----	-----	1.4	0.7	0.9	7.5
29	[4 18]	[10 33]	6 55b	10 02a	[0.5]	[0.5]	[0.4]	1.5	-----	-----	21 38	1.4	0.6	0.9	7.5
30	[6 30]	[0 40]	10 10b	0 00b	[0.1]	[0.1]	[0.1]	0.7	-----	-----	-----	0.9	0.3	0.5	7.5
31	[4 15]	[10 30]	6 46b	10 03a	[0.7]	[0.8]	[0.6]	1.6	-----	-----	-----	1.4	0.6	0.8	7.5
32	[4 35]	[10 47]	7 06b	10 20a	[0.7]	[0.8]	[0.6]	1.6	-----	-----	-----	1.4	0.6	0.8	8.0
33	[4 25]	[10 35]	6 56b	10 08a	[0.8]	[0.9]	[0.7]	1.6	-----	-----	-----	1.4	0.6	0.8	8.0
34	[4 05]	[10 15]	6 36b	9 48a	[0.7]	[0.8]	[0.6]	1.6	-----	-----	-----	1.4	0.6	0.8	8.0
35	[2 00]	[8 10]	5 07b	7 36a	[0.3]	[0.4]	[0.2]	1.1	-----	-----	-----	1.2	0.4	0.6	8.0
36	[1 55]	[8 03]	4 35b	7 34a	[0.4]	[0.5]	[0.5]	1.4	-----	-----	-----	1.8	0.5	0.7	8.0
37	[2 00]	[8 34]	6 55b	7 51a	[0.2]	[0.2]	[0.1]	1.3	-----	-----	19 57	1.3	0.5	0.7	8.0
38	[2 49]	[8 38]	7 18b	7 56a	[0.4]	[0.6]	[0.3]	2.4	-----	-----	20 35	2.4	0.7	1.1	6.5
39	[12 06]	[5 50]	4 10b	5 08a	[0.3]	[0.4]	[0.2]	1.6	-----	-----	-----	1.5	0.5	0.8	6.0
40	[12 00]	[5 45]	4 04b	5 03a	[0.3]	[0.4]	[0.2]	1.6	-----	-----	-----	1.5	0.5	0.8	6.0
41	[12 16]	[6 00]	4 20b	5 18a	[0.3]	[0.4]	[0.2]	1.6	-----	-----	-----	1.5	0.5	0.8	5.5
42	2 59	9 28	4 59b	9 13a	1.7	2.1	1.3	3.6	0.4	3.0	20 59	3.0	0.8	2.3	5.5
43	10 20	4 10	10 07b	4 55a	1.4	1.8	0.9	1.9	0.9	0.3	-----	1.0	0.7	0.8	5.5
44	9 30	3 19	9 16b	4 06a	1.2	1.5	0.8	1.7	0.9	0.3	-----	0.9	0.6	0.7	4.5
45	9 20	3 08	9 05b	3 57a	1.3	1.6	0.9	1.8	0.9	0.3	-----	1.0	0.6	0.8	4.5
46	8 20	2 08	8 06b	2 55a	1.2	1.5	0.8	1.7	0.9	0.3	-----	0.9	0.6	0.7	4.5
47	8 00	1 50	7 46b	2 37a	1.2	1.5	0.8	1.7	0.9	0.3	-----	0.9	0.6	0.7	5.5
48	9 00	2 50	8 47b	3 33a	1.6	2.0	1.1	2.1	1.0	0.3	-----	1.1	0.8	0.9	5.5
49	7 35	1 23	7 25b	1 56a	2.7	3.5	1.8	3.4	1.3	0.4	-----	1.4	1.4	1.5	5.0
50	8 50	2 38	8 36b	3 25a	1.2	1.5	0.8	1.7	0.9	0.3	-----	0.9	0.6	0.7	5.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.		
NORTH AMERICA (EAST COAST)—Continued.												
NICARAGUA.												
Caribbean Sea.												
		North.	West.				Local time.		Mean Low Water.			
		°	°	h. m.			h. m.	h. m.	feet.	feet.		
1	Serranilla Bank	15 50	79 48	5 19	Key West.....	125	-4 47	-4 25	+0.4	0.0	1.2	
2	Serrana Bank	14 20	80 17	5 21	Key West.....	125	-4 47	-4 25	+0.4	0.0	1.2	
3	Old Providence Island	13 21	81 18	5 25	Key West.....	125	-4 47	-4 25	+0.4	0.0	0.9	
4	Cape Gracias a Dios Harbor	14 52	83 14	5 33	Key West.....	125	+1 33	+2 04	+0.4	0.0	1.2	
5	Pearl Cays.....	12 23	83 26	5 34	Key West.....	125	+5 28	+6 00	+0.4	0.0	1.2	
6	Corn Islands	12 10	83 03	5 32	Key West.....	125	+5 13	+5 44	+0.4	0.0	1.2	
7	Bluefields, Lagoon Entrance	12 01	83 42	5 35	Key West.....	125	+4 38	+4 57	-0.5	0.0	0.9	
8	San Juan del Norte (Greytown).....	10 55	83 41	5 35	Key West.....	125	+4 38	+5 10	0.0	0.0	0.9	
COSTA RICA.												
Caribbean Sea.												
9	Point Blanco	10 00	83 02	5 32	Key West.....	125	+4 38	+5 10	0.0	0.0	1.2	
BERMUDA ISLANDS.												
10	Ireland Island, dockyard	32 20	64 50	4 19	Sandy Hook.....	89	-0 28	-0 32	-1.3	0.0	0.9	
BAHAMAS.												
11	Memory Rock	26 59	79 09	5 17	Key West.....	125	-1 07	-0 35	+1.2	0.0	2.7	
12	Great Bahama Island	26 29	78 40	5 15	Key West.....	125	-1 02	-0 30	+1.8	0.0	2.7	
13	Whale Key	26 42	77 08	5 09	Key West.....	125	-0 58	-0 26	+2.4	0.0	2.9	
14	Great Abaco.....	26 17	77 08	5 09	Key West.....	125	-0 56	-0 24	+1.2	0.0	1.9	
15	Gun Key	25 34	79 18	5 17	Key West.....	125	-0 27	+0 05	+1.2	0.0	1.9	
16	Andros Island.....	24 29	77 44	5 11	Key West.....	125	-1 08	-0 36	+1.1	0.0	1.9	
17	Nassau, New Providence Island.....	25 05	77 21	5 09	Key West.....	125	-1 25	-0 52	+1.4	0.0	2.7	
18	Eleuthera Island.....	25 08	76 08	5 05	Key West.....	125	-1 48	-1 16	+1.9	0.0	2.9	
19	Cat Island.....	24 20	75 24	5 02	Key West.....	125	-1 48	-1 16	+1.9	0.0	2.9	
20	San Salvador, or Watling Island.....	24 06	74 26	4 58	Key West.....	125	-1 48	-1 16	+1.9	0.0	2.9	
21	Clarence Harbor, Long Island.....	23 06	74 58	5 00	Key West.....	125	-0 28	+0 04	+2.0	0.0	2.4	
22	Crooked Island.....	22 49	74 21	4 57	Key West.....	125	-1 58	-1 26	+0.8	0.0	1.6	
23	Mariguana Island	22 26	73 00	4 52	Key West.....	125	-1 28	-0 56	+1.1	0.0	1.9	
24	Inagua Island	20 56	73 41	4 55	Key West.....	125	-0 58	-0 26	+1.5	0.0	2.3	
25	Turks Islands.....	21 26	71 09	4 45	Key West.....	125	-1 18	-0 46	+1.1	0.0	1.9	
WEST INDIES.												
Cuba.												
							Time meridian, 75° W.		Mean Low Water.			
26	Cape San Antonio	21 52	84 58	5 40	Key West.....	125	+0 23	+0 55	0.0	0.0	1.9	
27	Bahia Honda	22 58	83 13	5 33	Key West.....	125	+0 10	+0 36	-0.2	0.0	0.8	
28	Habana	23 08	82 22	5 29	Key West.....	125	0 00	+0 22	-0.3	0.0	0.7	
29	Matanzas	23 02	81 45	5 27	Key West.....	125	+0 10	+0 42	+0.5	0.0	1.4	
30	Cardenas	23 04	81 12	5 25	Key West.....	125	+1 03	+1 35	+0.2	0.0	1.7	
31	Cayo Paredón Grande.....	22 29	78 09	5 13	Key West.....	125	-1 14	-0 42	+1.0	0.0	1.5	
32	Nuevitas Bay Entrance	21 33	77 07	5 08	Key West.....	125	+12 15	+12 44	+0.1	0.0	1.9	
33	Nuevitas, Nuevitas Bay	21 35	77 15	5 09	Key West.....	125	+14 01	+14 38	+0.2	0.0	1.7	
34	Port Padre	21 12	76 36	5 06	Key West.....	125	+12 24	+12 55	+0.9	0.0	1.5	
35	Port Gibara	21 06	76 08	5 05	Key West.....	125	+11 30	+11 57	+0.7	0.0	1.9	
36	Port Nipe Entrance	20 48	75 35	5 02	Key West.....	125	+11 34	+12 04	+0.8	0.0	1.7	
37	Livisa Bay Entrance	20 45	75 28	5 02	Key West.....	125	+11 27	+11 59	+0.7	0.0	1.9	
38	Port Panama	20 43	75 19	5 01	Key West.....	125	+11 29	+11 57	+0.7	0.0	1.9	
39	Cape Maisi	20 16	74 08	4 57	Key West.....	125	+11 14	+11 46	+1.0	0.0	1.9	
40	Guantanamo Bay Entrance	19 55	75 09	5 01	Key West.....	125	+12 25	+12 54	-0.2	0.0	0.8	
41	Santiago Bay Entrance	20 00	75 50	5 03	Key West.....	125	+12 49	+13 17	-0.1	0.0	0.9	
42	Ensenada de Mora	19 51	77 30	5 10	Key West.....	125	+12 46	+13 23	-0.4	0.0	0.7	
43	Manzanillo	20 19	77 10	5 09	Key West.....	125	-10 04	-9 32	+1.9	0.0	2.9	
44	Port Xagua Entrance (Cienfuegos).....	22 08	80 28	5 22	Key West.....	125	+0 39	+1 09	+0.4	0.0	0.7	
Jamaica.												
							Local time.					
45	Morant Point.....	17 55	76 11	5 05	Galveston	129	-9 41	+12 02	-0.4	0.0	0.7	
46	Port Royal	17 56	76 47	5 07	Galveston	129	-8 41	-11 48	-0.4	0.0	0.7	
47	South Negril Point	18 18	78 24	5 14	Galveston	129	-5 16	-8 28	-0.4	0.0	0.7	
48	St. Ann's Bay	18 30	77 16	5 09	Galveston	129	-8 41	-11 48	-0.4	0.0	0.7	
49	Grand Cayman Island	19 20	81 21	5 25	Galveston	129	-10 41	+11 02	-0.3	-0.1	0.7	
Haiti or Santo Domingo.												
50	Port au Prince	18 37	72 21	4 49	Key West.....	125	+12 00	+0 04	0.0	0.0	1.9	
51	Port Dauphin	19 45	71 48	4 47	St. Johns	53	+0 04	+0 03	+1.4	-0.4	1.2	
52	Samana Bay	19 13	69 09	4 37	St. Johns	53	+2 14	+2 12	-0.6	-0.4	0.8	
53	Saona Island	18 10	68 40	4 35	Galveston	129	-8 58	-8 48	-0.8	0.0	0.7	
54	Santo Domingo	18 27	69 53	4 40	Galveston	129	-10 42	-9 24	+0.6	-0.2	1.9	
55	Jacmel	18 12	72 35	4 50	Galveston	129	-10 42	-9 24	+0.8	-0.2	1.9	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	4 00	10 13	3 47b	10 56b	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	3.5
2	4 00	10 13	3 47b	10 56b	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	3.5
3	4 00	10 13	3 43b	11 08b	0.8	1.0	0.5	1.2	0.7	0.2	.....	0.7	0.4	0.5	4.0
4	10 20	4 07	10 07a	4 50b	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	4.5
5	1 50	8 03	1 37b	8 46b	1.6	2.0	1.1	2.1	1.0	0.3	.....	1.1	0.8	0.9	4.5
6	1 35	7 47	1 22b	8 30b	1.6	2.0	1.1	2.1	1.0	0.8	.....	1.1	0.8	0.9	4.5
7	1 04	7 00	0 19a	7 51b	0.7	0.8	0.6	1.3	0.9	0.3	.....	0.9	0.3	0.6	5.0
8	1 00	7 13	0 46b	8 00b	1.2	1.5	0.8	1.7	0.9	0.3	.....	0.9	0.6	0.7	5.0
9	1 00	7 13	0 45b	8 02b	1.3	1.6	0.9	1.8	0.9	0.3	.....	1.0	0.6	0.8	5.0
10	7 04	0 52	7 01a	1 08a	3.3	4.0	2.6	3.6	0.8	0.1	.....	0.9	1.6	1.7	West. 9.5
11	7 40	1 28	7 30a	2 01a	2.5	3.2	1.7	3.1	1.2	0.4	.....	1.3	1.2	1.4	0.5 E.
12	7 45	1 33	7 35a	2 03a	3.0	3.8	2.0	3.8	1.4	0.5	.....	1.5	1.5	1.7	0.5 E.
13	7 50	1 38	7 41a	2 05a	3.5	4.5	2.4	4.3	1.5	0.5	.....	1.6	1.8	1.9	0.5 W.
14	7 52	1 40	7 42a	2 14a	2.4	3.1	1.6	3.0	1.2	0.4	.....	1.3	1.2	1.4	0.0
15	8 20	2 08	8 09a	2 44a	2.3	3.0	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	1.0 E.
16	7 40	1 28	7 29a	2 04a	2.3	3.0	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	0.5 E.
17	7 23	1 12	7 28a	0 46a	2.6	3.1	2.1	3.1	1.0	0.3	8 22	1.0	1.3	1.4	0.0
18	7 00	0 48	6 51a	1 18a	3.1	4.0	2.1	3.9	1.4	0.5	.....	1.5	1.6	1.7	0.0
19	7 00	0 48	6 51a	1 18a	3.1	4.0	2.1	3.9	1.4	0.5	.....	1.5	1.6	1.7	0.0
20	7 00	0 48	6 51a	1 18a	3.1	4.0	2.1	3.9	1.4	0.5	.....	1.5	1.6	1.7	0.5 W.
21	8 20	2 08	8 11a	2 38a	3.2	4.1	2.1	4.0	1.4	0.5	.....	1.5	1.6	1.8	0.0
22	6 50	0 38	6 39a	1 16a	2.0	2.5	1.3	2.6	1.1	0.4	.....	1.2	1.0	1.2	0.0
23	7 20	1 08	7 09a	1 44a	2.3	3.0	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	0.5 W.
24	7 50	1 38	7 40a	2 11a	2.7	3.5	1.8	3.4	1.3	0.4	.....	1.4	1.4	1.5	0.0
25	7 30	1 18	7 19a	1 54a	2.3	3.0	1.5	2.9	1.2	0.4	.....	1.3	1.2	1.3	1.0 W.
26	8 30	2 18	7 53b	2 10a	1.2	1.5	0.9	1.4	0.9	0.1	.....	0.9	0.6	0.7	East. 3.5
27	8 24	2 06	8 15b	3 28a	1.0	1.4	0.8	1.9	1.3	0.2	.....	1.3	0.5	1.0	8.0
28	8 18	1 56	8 09b	3 18a	0.9	1.3	0.7	1.7	1.2	0.2	.....	1.2	0.5	0.9	3.0
29	8 30	2 18	8 00b	2 12a	1.7	2.2	1.2	2.9	1.1	0.1	.....	1.1	0.8	0.9	2.5
30	9 25	3 13	8 52b	3 06a	1.4	1.8	1.0	1.5	1.0	0.1	.....	1.0	0.7	0.8	2.0
31	7 20	1 08	6 55b	1 02a	2.2	2.8	1.6	2.4	1.2	0.1	.....	1.2	1.1	1.2	1.0
32	8 30	2 15	9 05a	2 00a	1.3	1.5	1.0	1.8	0.6	0.4	.....	0.8	0.7	0.8	1.0
33	10 15	4 08	10 52a	3 55a	1.4	1.6	1.1	1.9	0.6	0.4	.....	0.8	0.7	0.9	1.0
34	8 41	2 28	9 05a	2 12a	2.1	2.4	1.8	2.9	1.1	0.5	.....	1.2	1.1	1.3	1.5
35	7 48	1 31	8 08a	1 16a	1.9	2.2	1.4	2.6	0.9	0.5	.....	1.1	1.0	1.1	1.0
36	7 55	1 41	8 08a	1 28a	2.0	2.3	1.5	2.7	0.9	0.5	.....	1.1	1.0	1.1	1.0
37	7 48	1 36	8 00a	1 24a	1.9	2.2	1.4	2.6	0.9	0.5	.....	1.1	0.9	1.1	1.0
38	7 51	1 35	8 05a	1 23a	1.9	2.2	1.4	2.6	0.9	0.5	.....	1.1	1.0	1.1	1.0
39	7 40	1 28	8 06a	1 04a	2.2	2.8	1.6	2.4	1.2	0.1	.....	1.2	1.1	1.2	0.5
40	8 47	2 32	9 25a	1 56a	1.0	1.3	0.6	1.4	0.6	0.3	.....	0.6	0.5	0.6	1.0
41	9 09	2 53	9 52a	2 48a	1.1	1.4	0.7	1.5	0.5	0.3	.....	0.6	0.5	0.7	1.0
42	8 59	2 52	10 02a	3 18a	0.8	1.0	0.6	1.1	0.2	0.4	.....	0.4	0.4	0.6	1.5
43	11 00	4 48	12 00a	5 10a	3.1	4.0	2.1	3.9	1.4	0.5	.....	1.5	1.6	1.7	1.5
44	9 04	2 50	10 00b	3 17a	0.8	1.0	0.6	1.1	0.2	0.4	.....	0.4	0.4	0.6	2.0
45	.....	.....	10 00a	10 00b	[0.4]	.....	.....	1.1	.....	.....	.....	1.0	0.4	0.6	1.5
46	.....	.....	11 00a	11 00b	[0.4]	.....	.....	1.1	.....	.....	.....	1.0	0.4	0.6	2.0
47	.....	.....	2 00b	2 00a	[0.4]	.....	.....	1.1	.....	.....	.....	1.0	0.4	0.6	2.0
48	.....	.....	11 00a	11 00b	[0.5]	.....	.....	1.2	.....	.....	.....	1.1	0.4	0.6	2.0
49	.....	.....	9 00a	9 00b	[0.5]	.....	.....	1.3	.....	.....	.....	1.1	0.4	0.6	3.0
50	8 23	2 08	8 12a	1 18a	1.2	1.5	0.9	1.6	0.7	0.1	.....	1.1	0.6	0.7	0.0
51	6 50	0 39	7 00a	11 00b	4.3	5.5	2.9	5.5	1.6	0.5	.....	1.8	2.2	2.3	0.0
52	9 00	2 48	8 00a	0 00a	2.3	3.0	1.5	3.1	1.2	0.4	.....	1.3	1.2	1.3	0.5 W.
53	[6 56]	[1 22]	10 44a	1 36a	[0.2]	.....	.....	0.6	.....	.....	.....	0.6	0.2	0.3	0.5 W.
54	.....	.....	9 00a	1 00a	[0.9]	.....	.....	2.2	.....	.....	.....	1.4	0.8	1.1	0.5 W.
55	.....	.....	9 00a	1 00a	[1.0]	.....	.....	2.5	.....	.....	.....	1.5	0.9	1.2	0.5 E.

TABLE 3.—TIDAL DIFFERENCES

Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
	Latitude.	Longitude.		Name.	Page.	Time.		Height.		
		Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (EAST COAST)—Continued.										
WEST INDIES—continued.										
Porto Rico.				North.	West.			Time meridian, 60° W.		Mean Low Water.
								h. m.	feet.	feet.
Culebrita Island Light	18 19	65 14	4 21	Galveston	129	- 10 32	- 9 09	- 0.4	-0.2	0.67
Great Harbor, Culebra Island	18 18	65 17	4 21	Key West	125	+12 01	+ 0 30	- 0.6	0.0	0.58
Port Mulas, Vieques or Crab Island	18 09	65 27	4 22	Key West	125	+12 09	+ 0 11	- 0.4	0.0	0.67
Port Ferro, Vieques or Crab Island	18 06	65 26	4 22	Galveston	129	- 9 21	-10 58	- 0.5	0.0	0.67
San Juan	18 29	66 07	4 24	Key West	125	- 0 02	+ 0 34	- 0.1	0.0	0.92
Fajardo Harbor	18 20	65 38	4 23	Key West	125	- 0 31	+ 0 27	- 0.1	0.0	0.92
Point Tuna Light	17 59	65 53	4 24	Galveston	129	- 7 57	- 9 46	- 0.5	0.0	0.67
Port of Ponce	17 59	66 40	4 27	Galveston	129	- 7 32	- 9 18	- 0.6	0.0	0.90
Port Guanica	17 58	66 56	4 28	Galveston	129	- 7 30	- 9 22	- 0.5	0.0	0.67
Parguera	17 58	67 03	4 28	Galveston	129	- 7 30	- 9 22	- 0.5	0.0	0.67
Port Real	18 05	67 11	4 29	Key West	125	- 0 23	+ 0 19	- 0.4	0.0	0.67
Mayaguez	18 13	67 08	4 29	Key West	125	- 0 20	+ 0 24	- 0.1	0.0	0.92
Windward or Caribbean Islands.										
						Local time.				
St. Thomas Island	18 25	64 58	4 20	Galveston	129	-10 54	- 9 34	- 0.4	0.0	0.80
St. Bartholomew Island	17 54	62 51	4 11	Galveston	129	-10 43	- 9 25	0.0	0.0	1.00
Antigua Island	16 59	61 48	4 07	Galveston	129	- 9 43	- 8 25	+ 0.4	-0.2	1.34
Guadaloupe	16 12	61 27	4 06	Galveston	129	- 8 43	- 7 25	- 0.3	-0.1	0.97
Dominica	15 35	61 31	4 06	Key West	125	+ 7 35	+ 8 06	0.0	0.0	0.51
Martinique	14 42	60 54	4 04	Key West	125	+ 7 25	+ 7 56	- 0.3	0.0	0.74
St. Vincent, Kingstown	13 10	61 13	4 05	Key West	125	+ 6 18	+ 6 52	0.0	0.0	1.00
Barbados	13 07	59 36	3 58	Key West	125	+ 6 25	+ 6 56	+ 1.1	0.0	1.94
Grenada	12 04	61 45	4 07	Key West	125	+ 6 05	+ 6 36	0.0	0.0	0.99
Tobago	11 10	60 42	4 03	Key West	125	+ 7 25	+ 7 56	+ 0.4	0.0	1.22
SOUTH AMERICA (NORTH AND EAST COAST).										
PANAMA.										
Caribbean Sea.										
Colon (Aspinwall)	9 18	79 51	5 19	Key West	125	+ 3 44	+ 4 15	- 0.3	0.0	0.74
Caledonia Harbor	8 56	77 47	5 11	Key West	125	+ 2 42	+ 3 13	0.0	0.0	0.99
COLOMBIA.										
Caribbean Sea.										
Cartagena	10 27	75 32	5 02	Key West	125	+ 2 02	+ 2 33	+ 0.1	0.0	1.07
VENEZUELA.										
Maracaibo	10 43	71 39	4 47	Apla	217	- 1 33	- 1 32	- 0.9	-0.3	0.79
La Guaira	10 40	66 58	4 28	Apla	217	- 0 39	- 0 38	- 0.6	-0.3	0.91
Parlamar, Margarita Island	10 58	63 51	4 15	Apla	217	- 2 19	- 2 16	- 1.6	-0.3	0.56
Orinoco R. Entr., Cangrejo Island	8 39	60 35	4 02	Apla	217	- 1 50	- 1 14	+ 2.5	-0.3	2.06
TRINIDAD.										
Port of Spain	10 39	61 31	4 06	Apla	217	- 2 20	- 2 21	+ 0.3	-0.3	1.35
Galcota Point	10 08	60 59	4 04	Apla	217	- 2 40	- 2 41	- 0.3	-0.3	1.02
GUIANA.										
Georgetown, Demerara River	6 49	58 11	3 53	Kingstown	321	+ 5 58	+ 5 80	- 3.4	-1.0	0.73
Paramaribo, Surinam River	6 02	55 13	3 41	Kingstown	321	+ 7 30	+ 7 40	- 2.7	-1.0	0.81
Cayenne, Cayenne River	4 56	52 20	3 29	Kingstown	321	+ 6 06	+ 6 09	- 5.3	-1.0	0.51
BRAZIL.										
Cape Cachipour	3 49	51 01	3 24	Cape Town	269	+ 4 17	+ 4 14	+ 3.2	-0.6	2.12
Conani River	2 50	50 53	3 24	Cape Town	269	+ 5 03	+ 7 19	+10.4	-0.6	4.88
Maraca Island Anchorage	2 09	50 30	3 22	Cape Town	269	+ 4 35	+ 7 49	+18.3	-0.6	6.74
Balique Id. Lt., Amazon R. Entr.	0 54	49 55	3 20	Cape Town	269	+ 7 05	+10 19	+ 6.8	-0.6	3.25
Point Pedrera, Amazon River	0 11	50 43	3 23	Cape Town	269	+ 9 25	+12 39	+ 8.2	-0.6	3.62
South.										
Dentro Channel, Para R. Entr.	0 23	47 55	3 12	Cape Town	269	+ 9 15	+ 9 17	+ 3.8	-0.6	2.32
Para, Para River	1 27	48 31	3 14	Cape Town	269	+10 25	+11 14	+ 4.1	-0.6	2.88
San Joao Islands Light	1 17	44 55	3 00	Cape Town	269	+ 4 48	+ 4 50	+ 6.6	-0.6	3.15
Maranhão, or San Luiz	2 30	44 19	2 57	Cape Town	269	+ 5 24	+ 5 25	+ 8.6	-0.6	3.71
Santa Anna Reefs Light	2 16	43 36	2 54	Cape Town	269	+ 4 09	+ 4 10	+ 6.0	-0.6	2.94
Tutola Anchorage	2 46	42 21	2 49	Cape Town	269	+ 3 39	+ 3 40	+ 4.8	-0.6	2.62
San Joao da Paranaíba	2 59	41 47	2 47	Cape Town	269	+ 3 52	+ 3 53	+ 5.8	-0.6	2.88
Camocim	2 53	40 52	2 43	Cape Town	269	+ 3 44	+ 3 45	+ 6.6	-0.6	3.15
Point Jericoacoara	2 48	40 32	2 42	Cape Town	269	+ 3 49	+ 3 50	+ 2.0	-0.6	1.76
Mandahi River Entrance	3 10	39 23	2 38	Cape Town	269	+ 3 54	+ 3 55	+ 2.6	-0.6	1.94
Ceara	3 42	38 31	2 34	Cape Town	269	+ 3 59	+ 4 00	+ 2.2	-0.6	1.82
Aracati, Jaguaribe River	4 28	37 45	2 31	Cape Town	269	+ 4 24	+ 4 23	+ 2.0	-0.6	1.79
Povoacao, Mossoro River	4 57	37 10	2 29	Cape Town	269	+ 3 18	+ 3 19	+ 2.4	-0.6	1.92
Cape St. Roque	5 29	35 16	2 21	Cape Town	269	+ 2 38	+ 2 39	+ 2.6	-0.6	1.87
Parahiba River Light	6 57	34 50	2 19	Cape Town	269	+ 3 33	+ 3 34	+ 2.0	-0.6	1.76

NUMBER.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	[7 31]	[1 30]	8 50a	0 55a	[0.8]	[1.0]	[0.6]	1.0				0.9	0.5	0.5	2.0
2	8 04	2 24	8 52a	1 13a	0.7	0.8	0.6	1.3	0.7	0.5	10 50	0.9	0.3	0.6	2.0
3	8 11	1 54	8 39a	0 58a	0.8	1.0	0.7	1.5	0.8	0.5		1.0	0.4	0.7	2.0
4	[7 35]	[1 40]	10 00a	11 30b	[0.6]	[0.8]	[0.4]	1.0				0.9	0.4	0.5	2.0
5	8 23	2 15	8 58a	1 31a	1.1	1.3	0.9	1.8	0.8	0.7	11 03	1.0	0.6	0.9	1.5
6	7 55	2 09	8 53a	1 17a	1.1	1.4	0.8	1.3	0.4	0.1		0.9	0.6	0.7	2.0
7	[8 00]	[8 12]	11 22a	0 15a	[0.8]	[0.5]	[0.1]	1.0				0.9	0.4	0.5	1.5
8	[8 28]	[3 37]	11 44a	0 40a	[0.1]	[0.1]	[0.0]	0.9			12 20	0.8	0.3	0.4	1.5
9			11 45a	0 35a	0.3	0.6	0.1	1.0				0.8	0.4	0.5	1.5
10	[8 30]	[3 32]	11 45a	0 35a	[0.7]	[0.9]	[0.5]	1.0				0.8	0.4	0.5	1.5
11	7 57	1 55	8 01a	0 00a	0.8	1.2	0.8	1.3	0.6	0.3		0.7	0.4	0.5	1.5
12	8 00	2 00	7 50a	0 33a	1.1	2.0	1.0	2.1	0.8	0.4		0.9	0.6	0.8	1.5
13	[7 11]	[0 58]	8 49a	0 51a	[0.3]			1.2			11 05	1.1	0.4	0.6	2.5
14			9 00a	1 00a	[0.6]			1.5				1.3	0.6	0.8	3.0
15			10 00a	2 00a	[0.8]			2.0				1.4	0.7	1.0	3.0
16			11 00a	3 00a	[0.5]			1.3				1.1	0.4	0.6	8.0
17	4 00	10 12	3 46a	10 59a	1.2	1.5	0.8	1.7	0.9	0.3		0.9	0.6	0.7	2.5
18	3 50	10 02	3 33a	10 59a	0.9	1.1	0.6	1.1	0.8	0.2		0.8	0.4	0.5	2.5
19	2 50	9 05	2 36a	9 52a	1.2	1.6	0.8	1.7	0.9	0.3		0.9	0.6	0.7	2.0
20	2 50	9 02	2 39a	9 38a	2.3	3.0	1.5	2.9	1.2	0.4		1.3	1.2	1.3	3.0
21	2 30	8 42	2 16a	9 29a	1.2	1.5	0.8	1.7	0.9	0.3		0.9	0.6	0.7	1.5
22	3 50	10 02	3 37a	10 45a	1.6	2.1	1.1	2.1	1.0	0.3		1.1	0.8	0.9	1.5
23	0 06	6 18	—0 11b	7 15b	0.9	1.1	0.6	1.1	0.8	0.2		0.8	0.4	0.5	<i>East.</i> 5.0
24	11 30	5 17	11 16a	6 04b	1.2	1.5	0.8	1.7	0.9	0.3		0.9	0.6	0.7	4.5
25	10 50	4 37	10 35a	5 28b	1.3	1.6	0.9	1.8	0.9	0.3		1.0	0.6	0.8	4.0
26	5 05	11 17	5 04b	11 27b	2.0	2.5	1.5	2.0	0.3	0.1		0.3	1.0	0.9	3.0
27	6 00	12 12	5 59b	12 20b	2.3	2.8	1.7	2.3	0.3	0.1		0.3	1.2	1.1	2.0
28	4 20	10 35	4 27b	11 06b	1.3	1.6	1.0	1.5	0.4	0.3		0.5	0.6	0.8	0.0
29	4 50	11 38	5 04b	12 32b	5.4	6.5	4.0	6.0	0.5	0.6		0.8	2.7	3.0	1.0 W.
30	4 20	10 30	4 19b	10 38b	3.2	4.0	2.4	3.2	0.4	0.1		0.4	1.6	1.5	<i>West.</i> 1.0
31	4 00	10 10	3 59b	10 20b	2.6	3.2	1.9	2.6	0.4	0.1		0.4	1.3	1.2	1.0
32	4 18	9 50			6.4	8.6	3.9						3.2		2.5
33	5 50	12 00			7.1	9.5	4.3						3.6		4.0
34	4 27	10 30			4.5	6.0	2.7						2.2		6.0
35	5 42	11 50	5 39b	11 55a	7.2	9.5	4.5	7.9	0.6	0.3		0.7	3.6	3.9	6.5
36	6 28	2 30	6 26b	2 34b	14.5	19.0	9.1	15.6	0.9	0.5		1.0	7.2	7.6	6.5
37	6 00	3 00	5 58b	3 03b	22.9	30.0	14.3	24.2	1.1	0.6		1.3	11.4	12.0	6.5
38	8 30	5 30	8 28b	6 34b	10.9	14.3	6.8	11.8	0.8	0.4		0.9	5.4	5.8	6.5
39	10 50	7 50	10 48b	7 54b	12.3	16.2	7.7	13.2	0.8	0.4		0.9	6.2	6.5	6.0
40	10 40	4 28	10 38b	4 32b	7.9	10.4	4.9	8.7	0.7	0.3		0.7	4.0	4.2	8.0
41	11 50	6 25	11 47b	6 30b	8.1	9.6	6.7	9.0	0.7	0.4		0.8	4.1	4.6	7.0
42	6 14	0 02	6 12b	0 06b	10.7	14.1	6.7	11.6	0.8	0.4		0.9	5.4	5.7	10.0
43	6 50	0 38	6 48b	0 42b	12.6	16.5	7.9	13.5	0.8	0.4		0.9	6.3	6.6	10.5
44	5 35	11 47	5 33b	11 51a	10.0	13.1	6.2	10.9	0.8	0.4		0.8	5.0	5.4	11.0
45	5 05	11 17	5 02b	11 22a	8.9	11.7	5.6	9.8	0.7	0.4		0.8	4.4	4.8	12.0
46	5 18	11 30	5 16b	11 34a	9.8	12.9	6.1	10.6	0.7	0.4		0.8	4.9	5.2	12.0
47	5 10	11 22	5 08b	11 29a	10.7	14.1	6.7	11.6	0.8	0.4		0.9	5.4	5.7	13.0
48	5 15	11 27	5 12b	11 32a	6.0	7.9	3.7	6.7	0.6	0.3		0.7	3.0	3.3	13.0
49	5 20	11 32	5 17b	11 37a	6.6	8.6	4.1	7.3	0.6	0.3		0.7	3.3	3.6	14.0
50	5 25	11 37	5 22b	11 42a	6.2	8.2	3.9	6.9	0.6	0.3		0.7	3.1	3.4	14.0
51	5 50	12 00	5 47b	12 05a	6.1	8.0	3.8	6.8	0.6	0.3		0.7	3.0	3.3	14.5
52	4 45	10 57	4 42b	11 02a	6.5	8.5	4.1	7.2	0.6	0.3		0.7	3.2	3.5	15.0
53	4 05	10 17	4 02b	10 22a	6.7	8.8	4.2	7.4	0.6	0.3		0.7	3.4	3.6	16.5
54	5 00	11 12	4 57b	11 17a	6.0	7.9	3.7	6.7	0.6	0.3		0.6	3.0	3.3	17.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
SOUTH AMERICA (SOUTH AND EAST COASTS).												
BRAZIL—continued.		South.	West.					Local time.		Mean Low Water.		
		°	°	h. m.				h. m.	h. m.	feet.	feet.	
1	Pernambuco (Reef Arsenal).....	8 04	34 54	2 20	Cape Town.....	269	+ 3 06	+ 3 12	+ 1.2	-0.6	1.0	
2	Maceio.....	9 35	35 41	2 23	Cape Town.....	269	+ 2 53	+ 2 54	+ 2.4	-0.6	1.0	
3	San Francisco River Entrance.....	10 28	36 23	2 26	Cape Town.....	269	+ 2 50	+ 2 51	+ 1.8	-0.6	1.0	
4	Bahia.....	12 58	38 31	2 34	Cape Town.....	269	+ 2 44	+ 2 45	+ 1.8	-0.6	1.0	
5	Morro de Sao Paulo.....	13 21	38 54	2 36	Cape Town.....	269	+ 2 24	+ 2 23	+ 0.6	-0.6	1.0	
6	Port Camamu.....	13 54	39 02	2 36	Cape Town.....	269	+ 2 24	+ 2 23	+ 0.8	-0.6	1.0	
7	San Jorge dos Ilheos.....	14 47	39 03	2 36	Cape Town.....	269	+ 2 09	+ 2 10	+ 0.8	-0.6	1.0	
8	Santa Cruz.....	16 17	39 02	2 36	Cape Town.....	269	+ 1 59	+ 2 00	+ 0.6	-0.6	1.0	
9	Comoxatiba.....	17 06	39 10	2 37	Cape Town.....	269	+ 1 54	+ 1 55	+ 0.2	-0.6	1.0	
10	Caravelas.....	17 43	39 09	2 37	Cape Town.....	269	+ 1 44	+ 1 46	+ 0.8	-0.6	1.0	
11	Abrolhos Island Light.....	17 57	38 40	2 35	Cape Town.....	269	+ 1 49	+ 1 50	+ 1.6	-0.6	1.0	
12	Aldeia Velha, Barra de Santa Cruz.....	19 55	40 08	2 41	Cape Town.....	269	+ 1 29	+ 1 30	+ 0.8	-0.6	1.0	
13	Victoria, Espirito Santo Bay.....	20 19	40 20	2 41	Cape Town.....	269	+ 1 24	+ 1 23	- 1.0	-0.6	1.0	
14	Benevente.....	20 49	40 41	2 43	Cape Town.....	269	+ 1 14	+ 1 15	+ 0.2	-0.6	1.0	
15	Itabapuna.....	21 20	40 59	2 44	Cape Town.....	269	+ 1 04	+ 1 05	0.0	-0.6	1.0	
16	Macae.....	22 23	41 47	2 47	Cape Town.....	269	+ 0 54	+ 0 53	+ 3.0	-0.6	1.0	
17	Porto Frio.....	22 58	42 00	2 48	Cape Town.....	269	+ 1 04	+ 1 05	- 0.4	-0.6	1.0	
18	Rio de Janeiro.....	22 55	43 09	2 53	Cape Town.....	269	+ 1 24	+ 1 23	- 0.8	-0.6	1.0	
19	Parati, Ilha Grande Bay.....	23 13	44 42	2 59	Cape Town.....	269	+ 0 09	+ 0 10	0.0	-0.6	1.0	
20	San Sebastiao.....	23 48	45 23	3 02	Cape Town.....	269	+ 0 25	+ 0 24	- 1.0	-0.6	1.0	
21	Santos.....	23 56	46 20	3 05	Cape Town.....	269	+ 1 25	+ 1 24	+ 0.4	-0.6	1.0	
22	Paranagua.....	25 31	48 30	3 14	Cape Town.....	269	+ 1 30	+ 1 29	+ 0.8	-0.6	1.0	
23	Cape Joao Diaz, San Francisco R.....	26 11	48 32	3 14	Cape Town.....	269	+ 0 55	+ 0 56	- 0.4	-0.6	1.0	
24	Santa Catharina Island.....	27 27	48 31	3 14	Cape Town.....	269	+ 1 10	+ 1 11	+ 0.4	-0.6	1.0	
25	Rio Grande do Sul.....	32 06	52 08	3 29	Cape Town.....	269	+ 2 35	+ 2 36	- 2.6	-0.6	1.0	
URUGUAY.												
26	Castillo Bay.....	34 22	53 48	3 35	Buenos Ayres.....	133	+ 1 29	+ 2 11	- 0.2	+0.2	1.0	
27	Montevideo, Plata River.....	34 53	56 12	3 45	Buenos Ayres.....	133	- 4 50	- 4 51	- 0.3	+0.1	0.7	
28	Colonia, Plata River.....	34 28	57 52	3 51	Buenos Ayres.....	133	- 0 20	+ 0 04	+ 1.8	+0.2	1.0	
ARGENTINA.												
29	Buenos Ayres, Plata River.....	34 36	58 22	3 53	Buenos Ayres.....	133	- 0 00	- 0 00	0.0	0.0	1.0	
30	Barragan Bay, Plata River.....	34 49	57 54	3 52	Buenos Ayres.....	133	- 0 50	- 0 41	+ 1.4	+0.2	1.0	
31	San Boronbon Bay.....	35 54	57 22	3 49	Buenos Ayres.....	133	- 2 20	- 1 51	+ 2.9	-0.3	2.5	
32	Cape San Antonio.....	36 20	56 46	3 47	Buenos Ayres.....	133	+ 3 00	+ 3 39	+ 3.0	+0.2	2.7	
33	Point Mogotes.....	38 09	57 30	3 50	Sitka.....	165	- 2 54	- 2 56	- 0.5	-0.4	0.9	
34	Port Belgrano, Bahia Blanca.....	38 59	61 52	4 07	Sitka.....	165	+ 5 44	+ 5 57	+ 4.8	-0.2	1.5	
PATAGONIA.												
East coast.												
35	Point Medano, Rio Negro Entr.....	41 03	62 46	4 11	Sitka.....	165	+10 33	+10 34	+ 3.9	+0.1	1.0	
36	Port San Antonio, San Matias Gulf.....	40 46	64 47	4 19	Sitka.....	165	+10 19	+10 20	+11.7	+1.1	2.7	
37	Port San Josef, San Matias Gulf.....	42 23	64 20	4 17	Sitka.....	165	+ 9 49	+ 9 50	+16.3	+1.7	2.9	
38	Port Madryn, Nuevo Gulf.....	42 45	64 59	4 20	Sitka.....	165	+ 6 49	+ 6 49	+ 2.5	-0.1	1.2	
39	Port Santa Elena.....	44 31	65 22	4 21	Sitka.....	165	+ 3 34	+ 3 35	+ 5.7	+0.3	1.0	
40	Port Desire.....	47 45	65 55	4 24	Sitka.....	165	- 0 16	- 0 16	+ 7.1	+0.5	1.5	
41	Port San Julian.....	49 15	67 42	4 31	Sitka.....	165	- 2 06	- 2 05	+17.1	+1.7	2.9	
42	Port Santa Cruz.....	50 08	68 23	4 34	Sitka.....	165	- 3 21	- 3 20	+26.0	+2.7	4.0	
43	Coy Inlet.....	50 58	69 10	4 37	Sitka.....	165	- 3 41	- 3 41	+26.3	+2.9	4.0	
44	Port Gallegos.....	51 33	69 01	4 36	Sitka.....	165	- 4 01	- 4 00	+31.3	+3.5	4.0	
MAGELLAN STRAIT.												
45	Sarmiento Bank.....	52 30	68 03	4 32	Sitka.....	165	- 4 41	- 4 40	+24.9	+2.7	3.0	
46	Cape Virgins.....	52 19	68 22	4 38	Sitka.....	165	- 4 23	- 4 22	+25.3	+2.7	3.0	
47	Dungeness.....	52 24	68 26	4 34	Sitka.....	165	- 4 22	- 4 21	+25.8	+2.8	3.0	
48	Cape Espiritu Santo.....	52 39	68 34	4 34	Sitka.....	165	- 4 21	- 4 20	+25.5	+2.7	3.0	
49	Catherine Point.....	52 32	68 45	4 35	Sitka.....	165	- 4 17	- 4 16	+17.5	+1.7	3.0	
50	Possession Bay, Stonewall Anch.....	52 16	69 10	4 37	Sitka.....	165	- 4 06	- 4 03	+25.5	+2.7	3.0	
51	Direction Hill.....	52 21	69 29	4 38	Sitka.....	165	- 3 58	- 3 53	+24.5	+2.5	3.0	
52	First Narrows.....	52 30	69 36	4 38	Sitka.....	165	- 3 54	- 3 48	+25.5	+2.7	3.0	
53	Philip Bay, east side.....	52 40	69 37	4 38	Sitka.....	165	- 3 36	- 3 28	+ 6.7	+0.5	1.0	
54	St. Jago Bay.....	52 32	69 55	4 40	Sitka.....	165	- 3 27	- 3 18	+ 8.5	+0.7	2.0	
55	Gregory Bay.....	52 37	70 08	4 41	Sitka.....	165	- 3 18	- 3 08	+ 9.5	+0.7	2.0	
56	Second Narrows.....	52 45	70 17	4 41	Sitka.....	165	- 2 51	- 2 38	+10.2	+1.0	2.0	
57	Gracia Point.....	52 44	70 32	4 42	Sitka.....	165	- 2 34	- 2 21	- 2.1	-0.7	0.7	
58	Pecket Harbor.....	52 47	70 48	4 43	Sitka.....	165	- 2 13	- 2 00	- 3.0	-0.8	0.7	
59	Royal Road, Elizabeth Island.....	52 49	70 36	4 42	Sitka.....	165	- 2 17	- 2 04	- 2.1	-0.7	0.8	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	4 33	10 50	4 30b	10 56a	6.3	7.0	3.3	6.0	0.6	0.3	15 00	0.6	2.6	2.9	16.5
2	4 20	10 82	4 17b	10 37a	6.6	8.5	4.1	7.2	0.6	0.3	.....	0.7	8.2	3.5	16.0
3	4 17	10 29	4 14b	10 34a	5.9	7.8	3.7	6.6	0.6	0.3	.....	0.6	8.0	8.2	15.5
4	4 10	10 22	4 07b	10 27a	5.8	7.6	3.6	6.5	0.6	0.3	.....	0.6	2.9	3.2	14.0
5	3 50	10 00	3 46b	10 07a	4.6	6.0	2.9	5.2	0.5	0.3	.....	0.5	2.3	2.6	14.0
6	3 50	10 00	3 47b	10 06a	4.8	6.3	3.0	5.4	0.5	0.3	.....	0.6	2.4	2.7	14.0
7	3 35	9 47	3 32b	9 53a	4.9	6.4	3.1	5.5	0.5	0.3	.....	0.6	2.4	2.7	14.0
8	3 25	9 37	3 21b	9 44a	4.6	6.0	2.9	5.2	0.5	0.3	.....	0.5	2.3	2.6	14.0
9	3 20	9 32	3 17b	9 38a	4.3	5.6	2.7	4.9	0.5	0.3	.....	0.5	2.2	2.4	13.5
10	3 10	9 23	3 07b	9 29a	4.9	6.4	3.1	5.5	0.5	0.3	.....	0.6	2.4	2.7	13.5
11	3 15	9 27	3 12b	9 32a	5.7	7.5	3.6	6.4	0.6	0.3	.....	0.6	2.8	3.1	14.0
12	2 55	9 07	2 51b	9 15a	3.2	4.2	2.0	3.7	0.4	0.2	.....	0.5	1.6	1.8	12.5
13	2 50	9 00	2 46b	9 09a	3.0	4.0	1.9	3.5	0.4	0.2	.....	0.4	1.5	1.7	12.0
14	2 40	8 52	2 36b	8 59a	3.8	5.0	2.4	4.3	0.5	0.2	.....	0.5	1.9	2.1	12.0
15	2 30	8 42	2 27b	8 47a	4.0	5.3	2.5	4.5	0.5	0.2	.....	0.5	2.0	2.2	11.5
16	2 20	8 30	2 17b	8 35a	7.0	9.2	4.4	7.7	0.6	0.3	.....	0.7	3.5	3.8	11.0
17	2 30	8 42	2 26b	8 49a	3.7	4.9	2.3	4.2	0.5	0.2	.....	0.5	1.8	2.0	10.5
18	2 50	9 00	2 46b	9 09a	3.2	4.2	2.0	3.7	0.4	0.2	.....	0.5	1.6	1.8	9.5
19	1 35	7 47	1 33b	7 52a	4.0	5.3	2.5	4.5	0.5	0.2	.....	0.5	2.0	2.2	8.5
20	1 50	8 00	1 46b	8 09a	3.0	4.0	1.9	3.5	0.4	0.2	.....	0.4	1.5	1.7	7.5
21	2 50	9 00	2 47b	9 06a	4.4	5.8	2.8	5.0	0.5	0.3	.....	0.5	2.2	2.5	7.0
22	2 55	9 05	2 52b	9 11a	4.9	6.4	3.1	5.5	0.5	0.3	.....	0.6	2.4	2.7	4.0
23	2 20	8 32	2 16b	8 39a	3.6	4.7	2.2	4.1	0.5	0.2	.....	0.5	1.8	2.0	4.0
24	2 35	8 47	2 32b	8 53a	4.5	5.9	2.8	5.1	0.5	0.3	.....	0.5	2.2	2.5	4.0W.
25	4 00	10 12	3 54b	10 23a	1.4	1.8	0.9	1.7	0.3	0.1	.....	0.3	0.7	0.8	0.5E.
26	8 20	2 08	8 33b	1 27b	1.5	2.0	0.9	1.9	0.3	0.1	.....	0.3	1.0	0.9	2.5
27	2 00	7 30	2 20b	7 37a	1.4	1.7	1.1	3.5	0.8	0.6	19 36	1.0	0.9	1.7	5.0
28	6 30	0 00	6 42b	-0 32b	3.4	4.0	2.7	4.7	1.8	0.8	.....	2.0	2.0	2.1	6.0
29	6 50	12 21	7 02b	11 38a	1.8	2.1	1.4	2.8	1.4	0.6	20 09	1.4	1.0	1.2	6.5
30	6 00	11 40	6 13b	11 06a	3.0	3.6	2.3	4.2	1.7	0.7	.....	1.9	1.8	1.9	6.5
31	4 30	10 30	4 40b	10 02a	4.4	5.2	3.4	5.9	2.1	0.9	.....	2.3	2.6	2.7	6.0
32	9 50	3 35	10 00b	3 07a	4.5	5.3	3.5	5.9	2.1	0.9	.....	2.3	2.6	2.7	6.0
33	9 48	3 33	9 30b	3 43a	7.6	9.8	5.1	7.7	1.3	2.1	.....	2.5	4.9	4.5	6.5
34	6 00	0 00	5 46b	0 08a	12.3	15.8	8.2	13.9	1.7	2.7	.....	3.2	7.9	6.7	10.0
35	10 50	4 38	10 35b	4 46a	11.5	14.7	7.7	13.0	1.6	2.6	.....	3.1	7.4	6.7	11.0
36	10 35	4 23	10 24b	4 30a	18.3	23.5	12.3	20.2	2.1	3.3	.....	3.9	11.8	10.4	12.0
37	10 05	3 53	9 55b	3 59a	22.4	28.7	15.0	24.5	2.3	3.6	.....	4.3	14.4	12.5	12.0
38	7 05	0 52	6 50b	1 01a	10.3	13.2	6.9	11.7	1.5	2.5	.....	2.9	6.6	6.0	12.0
39	3 50	10 03	3 37b	10 11b	13.1	16.8	8.8	14.7	1.7	2.8	.....	3.3	8.4	7.6	13.0
40	0 00	6 12	-0 13b	6 19b	14.3	18.3	9.6	16.0	1.8	2.9	.....	3.4	9.2	8.4	14.5
41	10 35	4 23	10 25a	4 29b	23.0	29.5	15.4	25.2	2.3	3.7	.....	4.4	14.8	12.9	16.0
42	9 20	3 08	9 10a	3 13b	30.9	39.6	20.7	33.4	2.7	4.3	.....	6.1	19.8	17.1	16.5
43	9 00	2 47	8 51a	2 52b	31.2	40.0	20.9	33.7	2.7	4.3	.....	5.1	20.0	17.2	17.0
44	8 40	2 28	8 32a	2 33b	35.6	45.6	23.9	38.3	2.9	4.6	.....	6.4	22.8	19.5	17.0
45	8 00	1 48	7 51a	1 53b	30.0	38.5	20.1	32.4	2.6	4.2	.....	5.0	19.2	16.6	17.0
46	8 18	2 06	8 09a	2 11b	30.2	38.7	20.2	32.6	2.6	4.2	.....	5.0	19.4	16.7	17.0
47	8 19	2 07	8 10a	2 12b	30.7	39.4	20.6	33.2	2.7	4.3	.....	5.0	19.7	17.0	17.5
48	8 20	2 08	8 11a	2 13b	30.4	39.0	20.4	32.8	2.6	4.2	.....	5.0	19.5	16.8	17.5
49	8 24	2 12	8 14a	2 18b	23.4	30.0	15.7	25.6	2.3	3.7	.....	4.4	15.0	13.1	17.5
50	8 35	2 25	8 26a	2 30b	30.4	39.0	20.4	32.8	2.6	4.2	.....	5.0	19.5	16.8	17.5
51	8 43	2 35	8 34a	2 40b	29.6	38.0	19.8	32.0	2.6	4.2	.....	5.0	19.0	16.4	18.0
52	8 47	2 40	8 38a	2 45b	30.4	39.0	20.4	32.8	2.6	4.2	.....	5.0	19.5	16.8	18.0
53	9 05	3 00	8 52a	3 07b	14.0	18.0	9.4	15.7	1.8	2.9	.....	3.4	9.0	8.1	18.0
54	9 14	3 10	9 02a	3 17b	15.6	20.0	10.5	17.4	1.9	3.0	.....	3.6	10.0	8.9	18.0
55	9 23	3 20	9 11a	3 27b	16.4	21.0	11.0	18.2	1.9	3.1	.....	3.7	10.5	9.3	18.0
56	9 50	3 50	9 39a	3 57b	17.9	23.0	12.0	19.8	2.0	3.3	.....	3.8	11.5	10.2	18.5
57	10 07	4 07	9 47a	4 18b	6.2	7.9	4.2	7.3	1.2	1.9	.....	2.3	4.0	3.8	18.5
58	10 28	4 28	10 07a	4 40b	5.5	7.0	3.7	6.5	1.1	1.8	.....	2.1	3.5	3.4	18.5
59	10 24	4 24	10 04a	4 35b	6.2	8.0	4.2	7.3	1.2	1.9	.....	2.3	4.0	3.8	18.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rat. of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
SOUTH AMERICA (SOUTH AND EAST COASTS)—Continued.											
MAGELLAN STRAIT—continued.											
		South.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Santa Magdalena Island	52 56	70 35	4 42	Sitka	165	- 2 16	- 2 03	- 0.4	-0.4	1.0
2	Sandy Point	53 10	70 54	4 44	Sitka	165	- 1 38	- 1 25	- 4.8	-0.9	0.5
3	Port Famine	53 38	70 59	4 44	Sitka	165	- 0 43	- 0 30	- 3.9	-0.9	0.6
4	Cape San Isidro	53 47	70 55	4 44	Sitka	165	- 0 20	- 0 07	- 2.1	-0.7	0.6
5	Cape Froward	53 54	71 18	4 45	Sitka	166	+ 0 12	+ 0 25	- 3.0	-0.8	0.7
6	Woods Bay	53 48	71 38	4 47	Sitka	165	+ 0 39	+ 0 49	- 2.1	-0.7	0.6
7	Port Gallant, Fortescue Bay	53 42	72 00	4 48	Sitka	166	+ 1 05	+ 1 13	- 2.1	-0.7	0.6
8	Borja Bay	53 32	72 29	4 50	Sitka	165	+ 1 39	+ 1 44	- 4.3	-0.9	0.7
9	Swallow Bay	53 30	72 48	4 51	Cape Horn	137	+10 46	+10 48	+ 0.2	0.0	1.0
10	Playa Parda Cove	53 19	73 00	4 52	Cape Horn	137	+10 24	+10 24	- 0.3	-0.1	0.8
11	Port Angosto	53 14	73 22	4 53	Cape Horn	137	+10 02	+10 01	0.7	-0.1	0.8
12	Sylvia Cove	52 59	73 33	4 54	Cape Horn	137	+ 9 53	+ 9 52	- 0.4	0.0	0.9
13	Port Tamar	52 56	73 45	4 55	Cape Horn	137	+ 9 48	+ 9 47	+ 1.2	0.0	1.3
14	Tuesday Bay	52 51	74 27	4 58	Cape Horn	137	+ 9 37	+ 9 36	+ 1.0	0.0	1.3
15	Cape Pillar	52 43	74 42	4 59	Cape Horn	137	+ 9 25	+ 9 25	- 0.7	-0.1	0.6
DETACHED ISLANDS.											
16	As Rocas Reef Light	3 51	33 49	2 15	Kingstown	321	+ 6 42	+ 6 55	- 1.0	+0.2	0.5
17	Fernando Noronha	3 50	32 25	2 10	Kingstown	321	+ 6 37	+ 6 50	- 4.6	-0.2	0.3
18	Trinidad Islands	20 30	29 22	1 57	Apla	217	- 3 04	- 3 04	+ 0.6	-0.2	1.1
19	Martin Vaz Islets	20 29	28 53	1 56	Apla	217	- 3 09	- 3 09	+ 0.2	+0.2	1.0
20	South Georgia (Royal Bay)	54 31	36 01	2 24	Singapore	201	- 2 40	- 2 32	- 4.8	-1.0	0.3
FALKLAND ISLANDS.											
21	Port Louis, Berkeley Sound	51 29	58 00	3 52	Sitka	165	- 7 11	- 7 27	- 5.4	-1.0	0.5
22	Bay of Harbors	52 15	59 16	3 57	Sitka	165	- 6 52	- 6 51	- 5.0	-1.0	0.7
23	Port Stephens	52 12	60 40	4 03	Sitka	165	- 5 07	- 5 06	- 2.9	-0.6	0.7
24	Port Egmont	51 18	60 05	4 00	Sitka	165	- 5 22	- 5 21	+ 0.3	-0.3	1.0
TIERRA DEL FUEGO.											
25	San Sebastian Bay	53 15	68 27	4 34	Sitka	165	- 5 51	- 5 50	+ 8.5	+0.7	2.0
26	Cape Penas	53 52	67 33	4 30	Sitka	165	- 6 09	- 6 08	+ 1.1	-0.3	1.3
27	Cape San Diego	54 42	65 10	4 21	Sitka	165	- 8 21	- 8 20	- 0.4	-0.4	1.0
28	Staten Island, east end	54 45	63 46	4 15	Tientsin Entrance	185	-10 47	-11 25	- 1.5	1.1	0.8
29	Goree Road	55 12	67 05	4 28	Tientsin Entrance	185	-11 15	-11 53	- 2.4	-1.2	0.3
30	St. Martin Cove, Hermite I.	55 51	67 33	4 30	Cape Horn	137	+ 0 34	+ 0 16	0.0	0.0	1.0
31	CAPE HORN (Orange Bay)	55 31	68 05	4 32	Cape Horn	137	+ 0 00	+ 0 00	0.0	0.0	1.0
32	Diego Ramirez Islands	56 28	68 43	4 35	Cape Horn	137	+ 0 17	+ 0 17	+ 0.2	0.0	1.0
33	New Year Sound	55 30	69 06	4 36	Cape Horn	137	+ 0 13	+ 0 13	+ 0.2	0.0	1.0
34	Noir Island	54 26	73 08	4 52	Cape Horn	137	- 1 12	- 1 12	0.0	0.0	1.0
35	Week Island	53 12	74 21	4 57	Cape Horn	137	- 1 42	- 1 42	0.0	0.0	1.0
SOUTH AMERICA (WEST COAST).											
PATAGONIA—continued.											
West coast.											
36	Evangelistas Island	52 21	75 08	5 01	Cape Horn	137	- 2 37	- 2 37	- 0.4	0.0	0.8
37	Guia Narrows	50 45	74 27	4 58	Cape Horn	137	- 1 22	- 0 55	+ 2.0	0.0	1.6
38	Port Henry, Gulf of Trinidad	50 03	75 18	5 01	Cape Horn	137	- 3 02	- 3 00	- 0.3	-0.1	0.6
39	English Narrows	49 04	74 21	4 57	Cape Horn	137	- 2 32	- 2 05	+ 1.2	0.0	1.1
40	Port Barbara, Penas Gulf	48 01	75 24	5 02	Cape Horn	137	- 3 17	- 3 15	+ 0.4	0.0	1.2
41	Port Otway, Penas Gulf	46 54	75 22	5 01	Cape Horn	137	- 3 22	- 3 20	+ 0.4	0.0	1.1
42	San Andres Bay	46 28	75 30	5 02	Cape Horn	137	- 3 27	- 3 25	0.0	0.0	1.0
43	Cape Taytao, Anna Pink Bay	45 47	75 06	5 00	Cape Horn	137	- 3 32	- 3 32	- 0.4	0.0	0.9
44	Vallenar Road	45 16	74 35	4 58	Cape Horn	137	- 3 42	- 3 42	- 0.4	0.0	0.9
45	Port Low	43 50	73 57	4 56	Cape Horn	137	- 3 37	- 3 35	+ 1.4	0.0	1.3
CHILE.											
46	Huafu or No Mans Island	43 36	74 43	4 59	Valparaiso	141	+ 2 33	+ 2 34	+ 1.8	+0.2	1.5
47	Cuco Bay, Chiloe Island	42 40	74 06	4 56	Valparaiso	141	+ 2 28	+ 2 27	+ 1.1	+0.1	1.3
48	Port Quellon, Chiloe Island	43 08	73 39	4 55	Valparaiso	141	+ 3 23	+ 3 24	+ 9.6	+1.2	3.5
49	Castro, Chiloe Island	42 28	73 46	4 55	Valparaiso	141	+ 3 49	+ 3 55	+12.5	+1.5	4.6
50	Calbuco, Ancud Gulf	41 47	73 11	4 53	Valparaiso	141	+ 3 58	+ 4 09	+ 9.6	+1.2	3.5
51	Port Montt, Reloncavi Sound	41 30	72 56	4 52	Valparaiso	141	+ 3 26	+ 3 37	+13.4	+1.6	4.8
52	Chacao Narrows	41 49	73 32	4 54	Valparaiso	141	+ 3 38	+ 3 49	+10.7	+1.3	4.6
53	Port San Carlos de Ancud, Chiloe I.	41 52	73 51	4 55	Valparaiso	141	+ 2 52	+ 2 54	+ 1.8	+0.2	2.0
54	Maulin, Maulin River	41 36	73 36	4 54	Valparaiso	141	+ 3 08	+ 3 10	+ 8.6	+0.6	1.6
55	Bueno River Entrance	40 14	73 42	4 55	Valparaiso	141	+ 2 48	+ 2 47	+ 2.9	+0.3	1.4

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	10 25	4 25	10 07a	4 35b	7.7	9.9	5.2	8.9	1.3	2.1	.....	2.5	5.0	4.6	18.5
2	11 03	5 03	10 38a	5 17b	3.9	5.0	2.6	4.8	0.9	1.5	.....	1.8	2.5	2.6	18.5
3	11 58	5 58	11 35a	6 11b	4.7	6.0	3.1	5.7	1.0	1.7	.....	2.0	3.0	3.0	19.0
4	12 21	6 21	12 01a	6 32b	6.2	8.0	4.2	7.3	1.2	1.9	.....	2.3	4.0	3.8	19.0
5	0 28	6 53	0 07b	7 05b	5.5	7.0	3.7	6.5	1.1	1.8	.....	2.1	3.5	3.4	19.0
6	0 54	7 16	0 34b	7 27b	6.2	8.0	4.2	7.3	1.2	1.9	.....	2.3	4.0	3.8	19.5
7	1 20	7 40	1 00b	7 51b	6.2	8.0	4.2	7.3	1.2	1.9	.....	2.3	4.0	3.8	19.5
8	1 54	8 11	1 30b	8 25b	4.3	5.5	2.9	5.2	1.0	1.6	.....	1.9	2.8	2.8	19.5
9	1 53	8 08	1 38b	8 30b	4.5	5.0	3.9	6.0	1.7	1.2	.....	2.1	2.5	2.9	20.0
10	1 31	7 44	1 15b	8 07b	4.0	4.5	3.5	5.4	1.6	1.1	.....	2.0	2.2	2.6	20.0
11	1 09	7 21	0 52b	7 45b	3.6	4.0	3.1	4.9	1.5	1.1	.....	1.9	2.0	2.4	20.0
12	1 00	7 12	0 43b	7 36b	3.8	4.3	3.3	5.2	1.6	1.1	.....	2.0	2.2	2.5	20.0
13	0 56	7 07	0 41b	7 27b	5.3	6.0	4.6	6.9	1.9	1.3	.....	2.3	3.0	3.4	20.0
14	0 41	6 56	0 30b	7 16b	5.2	5.8	4.5	6.8	1.9	1.3	.....	2.3	2.9	3.3	20.0
15	0 32	6 45	0 15b	7 09b	3.6	4.0	3.1	4.9	1.5	1.1	.....	1.9	2.0	2.4	20.5
16	5 05	11 18	.....	.....	7.5	10.0	4.6	.....	.....	.....	.....	.....	5.0	.....	West. 17.5
17	5 00	11 13	.....	.....	4.5	6.0	2.7	.....	.....	.....	.....	.....	3.0	.....	18.0
18	3 40	9 53	.....	.....	3.0	4.0	1.8	.....	.....	.....	.....	.....	2.0	.....	18.5
19	3 35	9 48	.....	.....	2.6	3.5	1.6	.....	.....	.....	.....	.....	1.8	.....	18.5
20	7 19	1 11	6 34a	1 23b	1.7	2.3	0.8	2.1	0.3	1.0	2 24	1.0	1.2	1.2	4.6
21	5 31	11 27	5 04a	11 43a	3.3	4.3	2.2	4.1	0.9	1.4	1 24	1.7	2.2	2.2	East. 10.5
22	5 50	12 08	5 25a	12 18a	3.7	4.8	2.5	4.6	0.9	1.5	.....	1.7	2.4	2.4	11.5
23	7 35	1 23	7 14a	1 35b	5.5	7.1	3.7	6.5	1.1	1.8	.....	2.1	3.6	3.4	12.5
24	7 20	1 08	7 03a	1 18b	8.3	10.7	5.6	9.6	1.4	2.2	.....	2.6	5.4	4.9	12.0
25	6 50	0 38	6 38a	0 45b	15.6	20.0	10.5	17.4	1.9	3.0	.....	3.6	10.0	8.9	17.5
26	6 32	0 20	6 16a	0 29b	9.2	11.8	6.2	10.6	1.5	2.3	.....	2.8	5.9	5.4	17.0
27	4 20	10 33	4 02a	10 43a	7.7	9.9	5.2	8.9	1.3	2.1	.....	2.5	5.0	4.6	16.0
28	4 19	10 32	4 07a	10 49a	6.9	7.8	6.0	8.7	2.1	1.4	.....	2.6	3.9	4.2	15.0
29	3 50	10 03	3 37a	10 22a	6.0	6.7	5.2	7.7	2.0	1.4	.....	2.5	3.4	3.7	17.0
30	4 07	10 02	3 52a	10 24a	4.3	4.8	3.8	5.8	1.7	1.2	1 19	2.1	2.4	2.8	18.0
31	3 33	9 46	3 11a	9 22a	4.2	4.8	3.4	5.9	2.0	1.8	0 48	2.6	2.4	2.9	18.0
32	3 50	10 03	3 35a	10 24a	4.5	5.0	3.9	6.0	1.7	1.2	.....	2.1	2.5	2.9	18.0
33	3 20	9 33	3 05a	9 54a	4.6	5.0	3.9	6.0	1.7	1.2	.....	2.1	2.5	2.9	18.0
34	2 20	8 33	2 04a	8 55a	4.3	4.8	3.7	5.7	1.7	1.1	.....	2.1	2.4	2.7	20.0
35	1 50	8 08	1 34a	8 25a	4.2	4.7	3.7	5.6	1.7	1.1	.....	2.1	2.4	2.7	20.5
36	0 55	7 08	0 39a	7 31a	3.9	4.4	3.4	5.3	1.6	1.1	.....	2.0	2.2	2.5	20.5
37	2 10	8 50	1 57a	9 08a	6.1	6.9	5.3	7.5	2.0	1.4	.....	2.5	3.4	3.8	20.0
38	0 30	6 45	0 14a	7 07a	4.0	4.5	3.5	5.4	1.6	1.1	.....	2.0	2.2	2.6	20.0
39	1 00	7 40	0 46a	7 59a	5.3	6.0	4.6	6.9	1.9	1.3	.....	2.3	3.0	3.3	19.0
40	0 15	6 30	0 00a	6 51a	4.7	5.3	4.1	6.2	1.8	1.2	.....	2.2	2.6	3.0	19.5
41	0 10	6 25	0 05a	6 46a	4.7	5.3	4.1	6.2	1.8	1.2	.....	2.2	2.6	3.0	19.0
42	0 05	6 20	0 11a	6 42a	4.3	4.8	3.7	5.7	1.7	1.1	.....	2.1	2.4	2.7	19.0
43	0 00	6 13	0 16a	6 36a	3.9	4.4	3.4	5.3	1.6	1.1	.....	2.0	2.2	2.5	19.0
44	12 15	6 08	11 59b	6 26a	3.9	4.4	3.4	5.3	1.6	1.1	.....	2.0	2.2	2.5	18.5
45	12 20	6 10	12 07b	6 29a	5.5	6.2	4.8	7.1	1.9	1.3	.....	2.3	3.1	3.4	18.5
46	12 10	6 00	12 05b	6 29a	4.7	6.1	3.1	5.7	2.1	0.5	.....	2.1	3.0	2.5	18.0
47	12 05	5 53	11 59b	6 23a	4.0	5.2	2.6	4.9	1.9	0.4	.....	1.9	2.6	2.1	17.5
48	0 35	6 50	0 31a	7 14a	11.4	14.7	7.5	13.0	3.3	0.7	.....	3.3	7.4	5.9	17.5
49	0 01	6 21	0 02a	6 37a	14.0	18.0	9.1	15.7	3.6	0.8	.....	3.6	9.0	7.2	17.5
50	1 10	7 35	1 06a	7 58a	11.5	14.8	7.5	13.1	3.3	0.7	.....	3.3	7.4	6.0	17.0
51	0 38	7 03	0 35a	7 19a	14.7	19.0	9.7	16.5	3.7	0.8	.....	3.7	9.5	7.6	17.0
52	0 50	7 15	0 47a	7 32a	12.4	16.0	8.1	14.0	3.4	0.7	.....	3.4	8.0	6.4	17.0
53	0 04	6 20	0 01a	6 49a	4.6	5.9	3.0	5.6	2.1	0.5	.....	2.1	3.0	2.4	17.5
54	0 20	6 36	0 15a	7 01a	6.1	7.9	4.0	7.2	2.4	0.5	.....	2.4	4.0	3.2	17.5
55	0 00	6 13	0 05a	6 39a	5.6	7.2	3.7	6.7	2.3	0.5	.....	2.3	3.6	2.9	17.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
SOUTH AMERICA (WEST COAST)—Continued.											
CHILE—continued.											
West coast—Continued.											
		South.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Chaihuin Bay	39 58	73 37	4 54	Valparaiso	141	+1 23	+1 22	+0.4	0.0	1.15
2	Corral, Port Valdivia	39 53	73 27	4 54	Valparaiso	141	+0 48	+0 47	+1.4	+0.2	1.41
3	Valdivia	39 50	73 18	4 53	Valparaiso	141	+1 48	+1 44	0.0	0.0	0.99
4	Queule	39 23	73 14	4 53	Valparaiso	141	+0 41	+0 39	+0.8	0.0	1.25
5	Imperial or Cautin River Entrance	38 48	73 23	4 54	Valparaiso	141	+0 23	+0 21	+1.0	0.0	1.25
6	Mocha Island	38 20	73 57	4 56	Valparaiso	141	+0 43	+0 41	-0.6	-0.2	0.86
7	Lebu, Lebu River	37 37	73 42	4 55	Valparaiso	141	+0 38	+0 36	+0.8	0.0	1.25
8	Yañez Cove	37 22	73 41	4 55	Valparaiso	141	+0 33	+0 29	+1.2	0.0	1.35
9	Santa Maria Island Light	37 03	73 32	4 54	Valparaiso	141	+0 33	+0 29	+1.8	+0.2	1.55
10	Lota, Arauco Bay	37 06	73 11	4 53	Valparaiso	141	+0 28	+0 24	+0.8	0.0	1.25
11	Talcahuano, Concepcion Bay	36 43	73 08	4 53	Valparaiso	141	+0 27	+0 25	+1.2	0.0	1.35
12	Tomé, Concepcion Bay	36 37	72 59	4 52	Valparaiso	141	+0 28	+0 27	+1.0	0.0	1.25
13	Dichato, Collumo Bay	36 32	72 58	4 52	Valparaiso	141	+0 29	+0 29	+0.8	0.0	1.25
14	Buchupureo	36 04	72 47	4 51	Valparaiso	141	+0 30	+0 31	-0.7	-0.1	0.72
15	Curanipe	35 48	72 38	4 51	Valparaiso	141	+0 44	+0 44	-0.5	-0.1	0.87
16	Maule River Entrance	35 19	72 25	4 50	Valparaiso	141	+0 08	+0 09	-0.3	-0.1	0.92
17	Constitucion, Maule River	35 20	72 24	4 50	Valparaiso	141	+0 29	+0 30	0.0	0.0	0.99
18	Llico	34 45	72 07	4 48	Valparaiso	141	+0 20	+0 22	+1.1	-0.1	1.05
19	Pichilemo	34 23	72 00	4 48	Valparaiso	141	+0 16	+0 16	0.0	0.0	1.02
20	Matanza Anchorage	33 58	71 54	4 48	Valparaiso	141	+0 12	-0 06	0.0	0.0	1.02
21	Toro Point	33 45	71 48	4 47	Valparaiso	141	+0 08	+0 09	-0.2	-0.2	0.95
22	Juan Fernandez Island	33 38	78 53	5 16	Valparaiso	141	-0 06	-0 05	-0.2	0.0	0.95
23	Port San Antonio	33 34	71 39	4 47	Valparaiso	141	+0 07	+0 08	0.0	0.0	1.02
24	Quintal Road	33 11	71 42	4 47	Valparaiso	141	+0 02	+0 03	0.0	0.0	0.99
25	VALPARAISO	33 02	71 39	4 47	Valparaiso	141	0 00	0 00	0.0	0.0	1.00
26	Quintero Bay	32 46	71 31	4 46	Valparaiso	141	-0 02	-0 01	+0.1	-0.1	1.05
27	Port Papudo	32 30	71 28	4 46	Valparaiso	141	-0 05	-0 04	+0.1	-0.1	1.05
28	Pichidanguí	32 06	71 33	4 46	Valparaiso	141	-0 07	-0 06	0.0	0.0	0.99
29	Villos	31 54	71 32	4 46	Valparaiso	141	-0 11	-0 10	+0.2	0.0	1.05
30	Oscuro Cove	31 28	71 37	4 46	Valparaiso	141	-0 17	-0 16	+0.4	0.0	1.17
31	Tongol	30 15	71 31	4 46	Valparaiso	141	-0 22	-0 21	+0.1	-0.1	1.05
32	Guayacan, Port Herradura	29 58	71 23	4 46	Valparaiso	141	-0 27	-0 26	+0.7	+0.1	1.15
33	Coquimbo	29 57	71 22	4 45	Valparaiso	141	-0 39	-0 38	+0.8	0.0	1.25
34	Totorillo	29 29	71 21	4 45	Valparaiso	141	-0 47	-0 46	+0.8	0.0	1.25
35	Peña Blanco Road	28 43	71 23	4 46	Valparaiso	141	-1 08	1 10	+0.4	0.0	1.09
36	Port Huasco	28 27	71 15	4 45	Valparaiso	141	-1 14	-1 16	+0.8	0.0	1.25
37	Port Carrizal Bajo	28 04	71 12	4 45	Valparaiso	141	-0 47	-0 48	+0.8	0.0	1.25
38	Port Copiapo	27 20	70 59	4 44	Valparaiso	141	-1 16	-1 18	+1.0	0.0	1.28
39	Caldera	27 04	70 52	4 43	Valparaiso	141	-0 47	-0 49	+0.8	0.0	1.25
40	Port Flamenco	26 34	70 44	4 43	Valparaiso	141	-0 37	-0 39	+1.0	0.0	1.25
41	Chafaral de las Animas	26 20	70 41	4 43	Valparaiso	141	-0 32	-0 34	+0.8	0.0	1.25
42	Lavata Bay	25 39	70 44	4 43	Valparaiso	141	-0 27	-0 29	+1.0	0.0	1.28
43	Port Taltal	25 25	70 34	4 42	Valparaiso	141	-0 17	-0 19	+0.8	0.0	1.25
44	Grande Point	25 07	70 30	4 42	Valparaiso	141	-0 02	-0 04	+1.0	0.0	1.28
45	Paposo	25 03	70 30	4 42	Valparaiso	141	-0 07	-0 09	+0.8	0.0	1.25
46	Blanco Encalada Road	24 22	70 34	4 42	Valparaiso	141	+0 13	+0 11	-0.4	0.0	0.89
47	Antofagasta, Moreno Bay	23 38	70 25	4 42	Valparaiso	141	-0 32	-0 34	+0.7	+0.1	1.15
48	San Luciano, Mejillones del Sur B.	23 06	70 28	4 42	Valparaiso	141	-0 02	-0 04	0.0	0.0	0.99
49	Cobija	22 34	70 18	4 41	Valparaiso	141	+0 07	+0 05	0.0	0.0	1.02
50	Tocopilla	22 05	70 13	4 41	Valparaiso	141	-0 42	-0 44	+0.8	0.0	1.22
51	Point Lobos	21 05	70 13	4 41	Valparaiso	141	-0 37	-0 39	+0.8	0.0	1.25
52	Iquique	20 12	70 10	4 41	Valparaiso	141	-1 02	-1 04	+1.0	0.0	1.28
53	Buena Cove	19 52	70 09	4 41	Valparaiso	141	-1 02	-1 04	+1.3	+0.1	1.38
54	Pisagua River	19 33	70 14	4 41	Valparaiso	141	-1 05	-1 06	+1.0	0.0	1.28
55	Arica	18 28	70 20	4 41	Valparaiso	141	-1 48	-1 49	+1.4	+0.2	1.41
PERU.											
56	Ilo Road	17 35	71 23	4 46	Valparaiso	141	-1 42	-1 43	+1.2	0.0	1.35
57	Islay Road	16 58	72 10	4 49	Valparaiso	141	-1 58	-1 59	+2.0	+0.2	1.55
58	Port San Juan	15 20	75 09	5 01	Valparaiso	141	-2 50	-2 51	0.0	0.0	0.99
59	Pisco Bay	13 40	76 14	5 05	Valparaiso	141	-3 20	-3 21	-0.2	0.0	0.95
60	Callao Bay	12 02	77 09	5 09	Valparaiso	141	-3 49	-3 50	-0.4	0.0	0.89

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWL.	LWL.	HHWL.	LLWL.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	11 00	4 48	10 54b	5 23a	3.3	4.3	2.2	4.2	1.8	0.4	.....	1.8	2.2	1.8	17.0
2	10 25	4 13	10 20b	4 43a	4.3	5.6	2.8	5.2	2.0	0.4	.....	2.0	2.8	2.8	16.6
3	11 25	5 10	11 18b	5 46a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	16.5
4	10 18	4 06	10 12b	4 37a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	16.5
5	10 00	3 47	9 54b	4 18a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	16.5
6	10 20	4 07	10 13b	4 46a	2.6	3.3	1.7	3.3	1.6	0.3	.....	1.6	1.6	1.4	16.5
7	10 15	4 02	10 09b	4 34a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	16.0
8	10 10	3 55	10 04b	4 26a	4.1	5.3	2.7	5.0	2.0	0.4	.....	2.0	2.6	2.3	16.0
9	10 10	3 55	10 05b	4 24a	4.7	6.0	3.0	5.7	2.1	0.5	.....	2.1	3.0	2.4	16.0
10	10 05	3 50	9 59b	4 22a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	16.0
11	10 04	3 51	9 58b	4 22a	4.1	5.3	2.7	5.0	2.0	0.4	.....	2.0	2.6	2.3	16.0
12	10 05	3 53	9 59b	4 24a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	16.0
13	10 06	3 55	10 00b	4 27a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	16.0
14	10 07	3 57	10 00b	4 36a	2.4	3.1	1.6	3.1	1.5	0.3	.....	1.5	1.6	1.3	15.5
15	10 21	4 10	10 14b	4 49a	2.6	3.4	1.7	3.3	1.6	0.3	.....	1.6	1.7	1.4	15.0
16	9 45	3 35	9 38b	4 11a	2.8	3.6	1.8	3.6	1.6	0.4	.....	1.6	1.8	1.5	15.0
17	10 06	3 56	9 59b	4 32a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	15.0
18	9 57	3 48	9 51b	4 22a	3.2	4.1	2.1	4.0	1.7	0.4	.....	1.7	2.0	1.7	15.0
19	9 53	3 42	9 47b	4 17a	3.1	4.0	2.0	3.9	1.7	0.4	.....	1.7	2.0	1.7	15.0
20	9 40	3 20	9 43b	3 55a	3.1	4.0	2.0	3.9	1.7	0.4	.....	1.7	2.0	1.7	15.0
21	9 45	3 35	9 38b	4 12a	2.9	3.7	1.9	3.7	1.6	0.4	.....	1.7	1.8	1.5	14.5
22	9 30	3 20	9 23b	3 57a	2.9	3.8	1.9	3.7	1.6	0.4	.....	1.7	1.9	1.6	17.0
23	9 44	3 34	9 38b	4 09a	3.1	4.0	2.0	3.9	1.7	0.4	.....	1.7	2.0	1.7	14.5
24	9 39	3 29	9 32b	4 05a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	14.5
25	9 37	3 26	9 30b	4 01a	3.0	3.9	2.0	3.8	1.7	0.4	21 02	1.7	2.0	1.6	14.5
26	9 35	3 25	9 29b	3 59a	3.2	4.1	2.1	4.0	1.7	0.4	.....	1.7	2.0	1.7	14.0
27	9 32	3 22	9 26b	3 56a	3.2	4.1	2.1	4.0	1.7	0.4	.....	1.7	2.0	1.7	14.0
28	9 30	3 20	9 23b	3 56a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	14.0
29	9 26	3 16	9 20b	3 51a	3.3	4.2	2.1	4.2	1.8	0.4	.....	1.8	2.1	1.7	14.0
30	9 20	3 10	9 14b	3 43a	3.6	4.5	2.3	4.4	1.8	0.4	.....	1.8	2.2	1.8	14.0
31	9 15	3 05	9 09b	3 39a	3.2	4.1	2.1	4.0	1.7	0.4	.....	1.7	2.0	1.7	13.5
32	9 10	3 00	9 04b	3 32a	3.6	4.7	2.4	4.5	1.8	0.4	.....	1.8	2.4	1.9	13.0
33	8 58	2 48	8 52b	3 20a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	13.0
34	8 50	2 40	8 44b	3 12a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	13.0
35	8 29	2 16	8 23b	2 51a	3.3	4.3	2.2	4.2	1.8	0.4	.....	1.8	2.2	1.8	13.0
36	8 23	2 10	8 17b	2 42a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	13.0
37	8 50	2 38	8 44b	3 10a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	13.0
38	8 21	2 08	8 15b	2 39a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	12.5
39	8 50	2 37	8 44b	3 09a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	12.5
40	9 00	2 47	8 54b	3 18a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	12.0
41	9 05	2 52	8 59b	3 24a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	12.0
42	9 10	2 57	9 04b	3 28a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	12.0
43	9 20	3 07	9 14b	3 39a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	11.5
44	9 35	3 22	9 29b	3 53a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	11.5
45	9 30	3 17	9 24b	3 49a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	11.5
46	9 50	3 37	9 44b	4 14a	2.7	3.5	1.8	3.4	1.6	0.3	.....	1.6	1.8	1.5	11.5
47	9 05	2 52	8 59b	3 24a	3.6	4.7	2.4	4.5	1.8	0.4	.....	1.8	2.4	1.9	11.5
48	9 35	3 22	9 28b	3 58a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	11.0
49	9 44	3 31	9 38b	4 06a	3.1	4.0	2.0	3.9	1.7	0.4	.....	1.7	2.0	1.7	10.5
50	8 55	2 42	8 49b	3 14a	3.7	4.8	2.4	4.6	1.9	0.4	.....	1.9	2.4	2.0	10.5
51	9 00	2 47	8 54b	3 18a	3.8	4.9	2.5	4.7	1.9	0.4	.....	1.9	2.4	2.0	10.0
52	8 35	2 22	8 29b	2 53a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	10.0
53	8 35	2 22	8 29b	2 52a	4.2	5.4	2.7	5.1	2.0	0.4	.....	2.0	2.7	2.2	9.5
54	8 32	2 20	8 26b	2 51a	3.9	5.0	2.5	4.8	1.9	0.4	.....	1.9	2.5	2.0	9.5
55	7 49	1 37	7 44b	2 07a	4.3	5.6	2.8	5.2	2.0	0.4	.....	2.0	2.8	2.3	9.0
56	7 55	1 43	7 49b	2 14a	4.1	5.3	2.7	5.0	1.9	0.4	.....	2.0	2.6	2.3	9.5
57	7 39	1 27	7 34b	1 55a	4.8	6.2	3.1	5.8	2.1	0.5	.....	2.1	3.1	2.5	9.5
58	6 47	0 35	6 40b	1 11a	3.0	3.9	2.0	3.8	1.7	0.4	.....	1.7	2.0	1.6	10.0
59	6 16	0 04	6 09b	0 41a	2.9	3.8	1.9	3.7	1.6	0.4	.....	1.7	1.9	1.6	10.0
60	5 47	12 00	5 40b	0 12a	2.7	3.5	1.8	3.4	1.6	0.3	.....	1.6	1.8	1.5	9.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
SOUTH AMERICA (WEST COAST)—Continued.											
PERU—continued.											
		South.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Huacho Bay.....	11 08	77 35	5 10	Valparaiso.....	141	-4 07	-4 06	-0.8	-0.2	0.75
2	Huarmey Bay.....	10 06	78 06	5 13	Valparaiso.....	141	-4 28	-4 29	-1.7	-0.3	0.53
3	Ferrol Bay.....	9 07	78 33	5 14	Valparaiso.....	141	-4 46	-4 47	-1.7	-0.3	0.53
4	Port Malabrigo.....	7 40	79 24	5 18	Valparaiso.....	141	-5 17	-5 18	-1.7	-0.3	0.53
5	Eten Point.....	6 55	79 52	5 19	Valparaiso.....	141	-4 32	-4 33	-1.4	-0.2	0.63
6	Paíta.....	5 05	81 06	5 24	Valparaiso.....	141	+6 09	+6 08	-0.4	0.0	0.99
ECUADOR.											
7	Santa Clara Island.....	3 12	80 23	5 22	Valparaiso.....	141	-5 36	-5 37	+5.4	+0.6	2.57
8	Guayaquil.....	2 17	79 49	5 19	Valparaiso.....	141	-2 36	-2 25	+6.2	+0.8	2.80
9	Santa Elena Bay.....	2 11	80 56	5 24	Valparaiso.....	141	+5 49	+5 48	+3.6	+0.4	2.01
10	Port Manta.....	0 56	80 30	5 22	Valparaiso.....	141	+5 59	+5 58	+3.2	+0.4	1.91
11	Cape Pasado.....	0 22	80 30	5 22	Valparaiso.....	141	+6 04	+6 03	+5.4	+0.6	2.53
North.											
12	Padernales.....	0 02	80 05	5 20	Valparaiso.....	141	+6 09	+6 08	+6.1	+0.7	2.75
13	Atacames Bay.....	0 53	79 54	5 20	Valparaiso.....	141	-6 11	-1 12	+7.8	+1.0	3.57
14	Santiago River.....	1 16	79 03	5 16	Valparaiso.....	141	+6 09	+6 08	+7.8	+1.0	3.57
Galapagos Islands.											
South.											
15	Charles Island.....	1 13	90 30	6 02	Valparaiso.....	141	+5 03	+5 02	+1.8	+0.2	1.55
16	Iguana Cove, Albemarle Island.....	0 58	91 29	6 06	Valparaiso.....	141	+4 53	+4 52	+2.0	+0.2	1.55
17	Chatham Island.....	0 47	89 27	5 58	Valparaiso.....	141	+5 12	+5 11	+2.2	+0.2	1.64
18	Indefatigable Island.....	0 30	90 15	6 01	Valparaiso.....	141	+4 52	+4 51	+2.0	+0.2	1.55
19	James Island, N. side.....	0 13	90 44	6 03	Valparaiso.....	141	+5 38	+5 37	+1.1	+0.1	1.31
COLOMBIA—continued.											
North.											
20	Tumaco Road.....	1 51	78 40	5 15	Panama.....	145	+0 35	+0 34	-2.6	-0.2	0.82
21	Buenaventura.....	3 52	77 08	5 08	Panama.....	145	+3 00	+2 59	-2.6	-0.2	0.82
22	Negrillas Rocks.....	3 52	77 24	5 10	Panama.....	145	+1 00	+0 59	-2.9	-0.3	0.79
23	Cabita Bay.....	5 28	77 28	5 10	Panama.....	145	+0 40	+0 39	-2.6	-0.2	0.81
24	Cupica Bay.....	6 35	77 23	5 10	Panama.....	145	+0 30	+0 29	-2.5	-0.3	0.83
PANAMA—continued.											
25	Pinas Bay.....	7 34	78 11	5 13	Panama.....	145	+0 15	+0 14	-2.0	-0.2	0.86
26	Rey Island, Panama Gulf.....	8 17	78 54	5 16	Panama.....	145	0 00	-0 01	-0.4	-0.1	0.90
27	Chepo River, Panama Gulf.....	8 59	79 07	5 16	Panama.....	145	+0 05	+0 04	0.0	0.0	1.00
28	PANAMA (Naos I.), Panama Gulf.....	8 55	79 32	5 18	Panama.....	145	0 00	0 00	0.0	0.0	1.00
29	Taboga, Panama Gulf.....	8 48	79 33	5 18	Panama.....	145	0 00	-0 01	-0.6	0.0	0.95
30	Chame Bay, Panama Gulf.....	8 38	79 47	5 19	Panama.....	145	+0 30	+0 28	-0.8	-0.2	0.94
31	Cape Mala, Panama Gulf.....	7 30	80 00	5 20	Panama.....	145	+0 10	+0 08	-2.6	-0.4	0.82
32	Bahia Honda.....	7 43	81 30	5 26	Panama.....	145	+0 10	+0 08	-4.4	-0.6	0.69
33	Parida Island.....	8 07	82 20	5 29	Panama.....	145	+0 15	+0 14	-5.0	-0.6	0.66
NORTH AMERICA (WEST COAST).											
COSTA RICA—continued.											
West coast.											
34	El Rincon Harbor, Gulf of Dulce.....	8 44	83 28	5 34	Panama.....	145	-0 14	-0 15	-5.4	-0.6	0.63
35	Uvita Bay.....	9 08	83 46	5 35	Panama.....	145	-0 39	-0 41	-5.8	-0.6	0.60
36	Port Herradura.....	9 39	84 39	5 39	Panama.....	145	-0 24	-0 25	-6.2	-0.8	0.56
37	Port Culebra.....	10 38	85 40	5 43	Panama.....	145	-0 14	-0 15	-6.2	-0.8	0.56
38	Port Elena.....	10 58	85 42	5 43	Panama.....	145	-0 09	-0 11	-5.8	-0.6	0.60
NICARAGUA—continued.											
West coast.											
39	Port San Juan del Sur.....	11 15	85 53	5 44	Panama.....	145	+0 01	-0 01	-5.4	-0.6	0.63
40	Corinto Harbor.....	12 28	87 12	5 49	Panama.....	145	-0 04	-0 05	-5.0	-0.6	0.65
HONDURAS—continued.											
West coast.											
41	Amapala.....	13 20	87 34	5 50	Panama.....	145	+0 01	-0 01	-4.4	-0.6	0.69
SALVADOR.											
42	Port la Union.....	13 20	87 51	5 51	Panama.....	145	+0 16	+0 15	-5.0	-0.6	0.65
43	Libertad.....	13 29	89 19	5 57	Panama.....	145	+0 06	+0 05	-5.4	-0.6	0.63
44	Acajutla Bay.....	13 34	89 50	5 59	Panama.....	145	-0 04	-0 05	-5.8	-0.6	0.60

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °	
1	5 29	11 42	5 21b	12 23b	2.3	8.0	1.5	3.0	1.5	0.3	.....	1.5	1.5	1.3	9.0
2	5 08	11 21	4 59b	12 09b	1.6	2.1	1.1	2.2	1.2	0.3	.....	1.2	1.0	0.9	9.0
3	4 50	11 03	4 41b	11 51b	1.6	2.0	1.0	2.2	1.2	0.3	.....	1.2	1.0	0.9	9.0
4	4 19	10 32	4 10b	11 20b	1.6	2.1	1.1	2.2	1.2	0.3	.....	1.2	1.0	0.9	8.5
5	4 04	10 17	3 56b	11 00b	1.9	2.5	1.3	2.3	1.3	0.3	.....	1.3	1.2	1.1	8.5
6	3 20	9 33	3 13b	10 10b	2.7	3.5	1.8	3.4	1.6	0.3	.....	1.6	1.8	1.5	8.0
7	4 00	10 13	3 56b	10 35b	7.8	10.0	5.1	9.1	2.7	0.6	.....	2.7	5.0	4.1	7.5
8	7 00	1 00	6 56b	1 21b	8.5	11.0	5.6	9.8	2.8	0.6	.....	2.8	5.5	4.5	7.5
9	3 00	9 13	2 55b	9 38b	6.1	7.9	4.0	7.2	2.4	0.5	.....	2.4	4.0	3.2	7.5
10	3 10	9 23	3 06b	9 48b	5.8	7.5	3.8	6.9	2.3	0.5	.....	2.3	3.8	3.0	7.0
11	3 15	9 28	3 11b	9 50b	7.7	9.9	5.0	9.0	2.7	0.6	.....	2.7	5.0	4.0	7.0
12	3 20	9 33	3 16b	9 54b	8.4	10.8	5.5	9.7	2.8	0.6	.....	2.8	5.4	4.4	7.0
13	3 25	9 38	3 21b	9 58b	9.9	12.8	6.5	11.3	3.0	0.7	.....	3.1	6.4	5.2	6.5
14	3 20	9 33	3 16b	9 53b	9.9	12.7	6.5	11.3	3.0	0.7	.....	3.1	6.4	5.1	6.5
15	2 10	8 23	2 05b	8 52b	4.7	6.0	3.0	5.7	2.1	0.5	.....	2.1	3.0	2.4	8.0
16	2 00	8 13	1 55b	8 41b	4.8	6.2	3.1	5.8	2.1	0.5	.....	2.1	3.1	2.5	8.0
17	2 20	8 33	2 15b	9 01b	5.0	6.5	3.3	6.1	2.2	0.5	.....	2.2	3.2	2.6	8.0
18	2 00	8 13	1 55b	8 41b	4.8	6.2	3.1	5.8	2.1	0.5	.....	2.1	3.1	2.5	8.0
19	2 45	8 58	2 39b	9 23b	4.0	5.2	2.6	4.9	1.9	0.4	.....	1.9	2.6	2.1	8.0
20	3 35	9 48	3 29a	9 51a	10.3	13.2	7.1	10.4	0.5	0.9	.....	1.1	6.6	5.3	6.0
21	6 00	12 13	5 54a	12 16a	10.3	13.2	7.1	10.4	0.5	0.9	.....	1.1	6.6	5.3	5.5
22	4 00	10 13	3 55a	10 16a	10.0	12.8	6.9	10.1	0.5	0.9	.....	1.0	6.4	5.2	5.5
23	3 40	9 58	3 34a	9 56a	10.2	13.1	7.0	10.3	0.5	0.9	.....	1.1	6.6	5.3	5.5
24	3 30	9 48	3 24a	9 46a	10.4	13.3	7.2	10.5	0.5	0.9	.....	1.1	6.6	5.4	5.0
25	3 15	9 28	3 10a	9 31a	10.8	13.8	7.5	10.9	0.5	1.0	.....	1.1	6.9	5.6	5.0
26	3 00	9 13	2 55a	9 16a	12.3	15.7	8.5	12.4	0.6	1.0	.....	1.2	7.8	6.4	5.0
27	3 05	9 18	3 00a	9 21a	12.6	16.0	8.7	12.7	0.6	1.0	.....	1.2	8.0	6.4	5.0
28	2 59	9 13	2 54a	9 16a	12.6	15.9	8.7	12.9	0.6	1.1	23 22	1.2	8.0	6.6	5.0
29	3 00	9 13	2 55a	9 16a	12.0	15.4	8.3	12.1	0.6	1.0	.....	1.1	7.7	6.2	5.0
30	3 30	9 42	3 25a	9 46a	11.9	15.0	8.1	12.0	0.5	1.0	.....	1.1	7.5	6.0	5.0
31	3 10	9 22	3 04a	9 27a	10.3	13.0	7.0	10.4	0.5	0.9	.....	1.1	6.5	5.3	5.0
32	3 10	9 22	3 04a	9 27a	8.7	11.0	5.9	8.8	0.5	0.8	.....	1.0	5.5	4.4	5.5
33	3 15	9 28	3 09a	9 33a	8.3	10.5	5.7	8.4	0.5	0.8	.....	1.0	5.2	4.2	5.5
34	2 45	8 58	2 39a	9 03a	7.9	10.0	5.4	8.0	0.4	0.8	.....	0.9	5.0	4.0	5.5
35	2 20	8 32	2 14a	8 37a	7.5	9.5	5.1	7.6	0.4	0.8	.....	0.9	4.8	3.8	5.5
36	2 35	8 48	2 28a	8 53a	7.1	9.0	4.9	7.2	0.4	0.7	.....	0.9	4.5	3.6	5.5
37	2 45	8 58	2 38a	9 03a	7.1	9.0	4.9	7.2	0.4	0.7	.....	0.9	4.5	3.6	5.5
38	2 50	9 02	2 44a	9 07a	7.5	9.5	5.1	7.6	0.4	0.8	.....	0.9	4.8	3.8	5.5
39	3 00	9 12	2 54a	9 17a	7.9	10.0	5.4	8.0	0.4	0.8	.....	0.9	5.0	4.0	5.5
40	2 55	9 08	2 49a	9 13a	8.3	10.5	5.7	8.4	0.5	0.8	.....	1.0	5.2	4.2	5.5
41	3 00	9 12	2 54a	9 17a	8.7	11.0	5.9	8.8	0.5	0.8	.....	1.0	5.5	4.4	5.5
42	3 15	9 28	3 09a	9 33a	8.3	10.5	5.7	8.4	0.5	0.8	.....	1.0	5.2	4.2	5.5
43	3 05	9 18	2 59a	9 23a	7.9	10.0	5.4	8.0	0.4	0.8	.....	0.9	5.0	4.0	5.5
44	2 55	9 08	2 49a	9 13a	7.5	9.5	5.1	7.6	0.4	0.8	.....	0.9	4.8	3.8	5.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (WEST COAST)—Continued.											
GUATEMALA—continued.											
West coast.		North.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	San Jose	13 56	90 49	6 03	Panama	145	-0 08	-0 10	-6.2	-0.8	0.76
2	Champerico	14 17	91 55	6 08	Panama	145	-0 08	-0 10	-6.8	-0.8	0.55
3	Soconusco Bar.	15 06	92 54	6 12	Panama	145	-0 08	-0 10	-7.2	-0.8	3.36
MEXICO—continued.											
West coast.									Mean Lower Low Water.		
4	La Puerta	15 57	93 48	6 15	Panama	145	-0 08	-0 10	-8.2	-1.4	0.47
5	Salina Cruz	16 10	95 12	6 21	Panama	145	-0 08	-0 10	-8.6	-1.4	0.44
6	Port Sacrificios	15 41	96 14	6 25	Panama	145	-0 08	-0 10	-9.4	-1.4	0.47
7	Maldonado	16 38	98 45	6 35	Panama	145	-0 13	-0 14	-10.9	-1.5	0.45
8	Acapulco	16 52	99 55	6 40	Panama	145	-0 18	-0 20	-12.6	-1.6	0.43
9	Port Sihuatanajo	17 36	101 32	6 46	San Diego	149	-0 39	-0 39	-2.8	-0.6	0.45
10	Manzanillo	19 03	104 21	6 57	San Diego	149	-0 22	-0 22	-2.5	-0.5	0.47
11	Chamela or Perula Bay	19 32	105 07	7 00	San Diego	149	-0 22	-0 24	-2.3	-0.5	0.52
12	San Blas	21 29	105 17	7 01	San Diego	149	-0 21	-0 25	-1.8	-0.4	0.60
13	Mazatlan	23 11	106 27	7 06	San Diego	149	-0 14	-0 19	-1.6	-0.4	0.64
Gulf of California.											
14	Altata, Cullacan River	24 38	107 58	7 12	San Diego	149	+0 45	+0 49	0.0	-0.2	1.06
15	San Lorenzo Channel	24 22	110 20	7 21	San Diego	149	+0 13	+0 18	-0.5	-0.3	0.94
16	La Paz Harbor	24 20	110 22	7 21	San Diego	149	+0 18	+0 24	-0.4	-0.2	0.97
17	San Lucas Bay	27 14	112 13	7 29	San Diego	149	+1 53	+2 00	-0.9	-0.3	0.94
18	Guaymas Harbor	27 55	110 51	7 23	San Diego	149	+2 08	+2 16	-0.7	-0.3	0.97
19	Santa Teresa Bay	28 25	112 52	7 31	San Diego	149	+2 28	+2 37	+4.0	0.0	2.11
20	Puerto Refugio	29 33	113 35	7 34	San Diego	149	+3 28	+3 38	+4.4	0.0	2.82
21	Tepeaca Bay	30 15	112 50	7 31	San Diego	149	+4 23	+4 34	+8.4	+0.4	3.74
22	Colorado River Entrance	31 45	114 48	7 39	San Diego	149	+5 19	+5 31	+18.6	+0.8	5.65
Lower California, outer coast.											
23	San Jose del Cabo	23 03	109 42	7 19	San Diego	149	-0 46	-0 50	-1.0	-0.4	0.94
24	Pequeña Bay, Santa Margarite I.	24 24	111 49	7 27	San Diego	149	-1 11	-1 17	+0.2	0.0	1.06
25	Magdalena Bay	24 34	112 09	7 29	San Diego	149	-1 04	-1 07	-0.3	-0.3	1.02
26	San Juanico Bay	26 15	112 28	7 30	Kodiak	169	-4 26	-4 21	-4.0	-1.0	0.75
27	Abrejos Pt., Ballenas Bay	26 43	113 34	7 34	Kodiak	169	-3 55	-3 50	-3.2	-1.0	0.68
28	San Bartolomé Bay	27 40	114 51	7 39	Kodiak	169	-3 55	-4 01	-2.2	-1.0	0.84
29	Cerros Island	28 12	115 14	7 41	San Diego	149	-0 16	-0 27	+2.4	+0.2	1.34
30	Playa Maria Bay	28 55	114 48	7 39	San Diego	149	-0 06	-0 16	+2.3	+0.2	1.49
31	Rosario Bay	29 54	115 43	7 43	San Diego	149	-0 02	-0 13	+1.1	+0.1	1.35
32	San Quentin Bay	30 25	115 54	7 44	San Diego	149	+0 02	-0 09	-0.1	0.0	0.97
33	Colnett Bay	30 57	116 15	7 45	San Diego	149	+0 06	-0 04	+0.7	+0.1	1.15
34	Ensenada, Todos Santos Bay	31 51	116 36	7 46	San Diego	149	+0 09	-0 03	0.0	0.0	0.99
CALIFORNIA.											
							Time meridian 120° W.				
35	San Diego Bar	32 40	117 14	7 49	San Diego	149	-0 08	-0 13	+0.1	0.0	1.02
36	SAN DIEGO, La Playa	32 42	117 14	7 49	San Diego	149	0 00	0 00	0.0	0.0	1.06
37	San Juan Capistrano	33 27	117 43	7 51	San Diego	149	+0 06	-0 03	-0.1	0.0	0.97
San Pedro Channel.											
38	Newport Landing	33 38	117 54	7 52	San Diego	149	+0 16	+0 07	-0.4	-0.1	0.92
39	Anaheim Landing	33 43	118 05	7 52	San Diego	149	+0 14	+0 02	+0.1	0.0	1.02
40	San Pedro	33 43	118 16	7 53	San Diego	149	+0 08	-0 03	+0.3	0.0	1.07
41	Santa Monica	34 01	118 30	7 54	San Diego	149	+0 10	+0 02	0.0	0.0	1.06
Santa Barbara Channel.											
42	Hueneme Light	34 09	119 13	7 57	San Diego	149	+0 08	+0 03	-0.2	-0.1	0.97
43	San Buenaventura	34 16	119 17	7 57	San Diego	149	+0 29	+0 09	-0.2	-0.1	0.97
44	Santa Barbara Light	34 24	119 43	7 59	San Diego	149	+0 18	+0 05	-0.2	0.0	0.94
45	Gaviota	34 28	120 14	8 01	San Diego	149	+0 14	+0 08	-0.2	0.0	0.94
Santa Barbara Islands.											
46	Santa Catalina Harbor, Catalina I.	33 26	118 29	7 54	San Diego	149	+1 03	+0 55	0.0	0.0	1.06
47	Corral Harbor, San Nicholas I.	33 17	119 31	7 58	San Diego	149	-0 03	-0 07	-0.2	-0.1	0.97
48	Prisoner Harbor, Santa Cruz I.	34 01	119 41	7 59	San Diego	149	+0 05	-0 04	-0.2	-0.1	0.97
49	Cuyler Harbor, San Miguel I.	34 03	120 21	8 01	San Diego	149	+0 03	-0 06	-0.2	-0.1	0.97

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	2 50	9 02	2 43a	9 07a	7.1	9.0	4.9	7.2	0.4	0.7	.....	0.9	4.5	3.6	5.5
2	2 50	9 02	2 43a	9 07a	6.7	8.5	4.6	6.8	0.4	0.7	.....	0.9	4.2	3.4	6.0
3	2 50	9 02	2 43a	9 07a	6.3	8.0	4.3	6.4	0.4	0.7	.....	0.8	4.0	3.2	6.0
4	2 50	9 02	2 43a	9 08a	5.9	7.5	4.0	6.0	0.4	0.7	.....	0.8	3.2	3.0	6.0
5	2 50	9 02	2 42a	9 08a	5.5	7.0	3.8	5.6	0.4	0.7	.....	0.8	3.0	2.8	6.0
6	2 50	9 02	2 42a	9 08a	4.7	6.0	3.2	4.8	0.3	0.6	.....	0.7	2.6	2.4	6.5
7	2 45	8 58	2 35a	9 06a	3.2	4.0	2.2	3.3	0.3	0.5	.....	0.6	1.8	1.7	7.0
8	2 40	8 52	2 27a	9 03a	1.6	2.0	1.1	1.6	0.2	0.4	.....	0.4	0.9	0.9	7.5
9	8 50	2 38	9 10a	2 39b	1.7	2.0	0.9	2.4	0.5	1.3	.....	1.5	1.2	1.3	8.0
10	9 07	2 54	9 50a	2 54b	1.8	1.9	1.3	2.8	0.3	1.5	.....	1.7	1.4	1.6	8.5
11	9 07	2 53	9 25a	3 00b	2.0	2.5	1.1	3.2	0.7	1.6	.....	1.8	1.5	1.7	9.0
12	9 08	2 52	9 00a	3 10b	2.3	3.2	1.0	3.3	0.9	1.7	.....	2.0	1.8	1.8	9.0
13	9 08	2 51	8 16a	3 20b	2.6	3.8	0.9	3.5	1.1	1.9	5 02	2.2	1.9	1.9	10.0
14	10 07	3 59	9 26a	4 22b	4.0	5.8	1.4	5.1	1.4	2.3	.....	2.7	2.8	2.8	10.5
15	9 35	3 28	8 51a	3 52b	3.6	5.3	1.2	4.7	1.3	2.2	.....	2.6	2.5	2.5	11.0
16	9 40	3 34	8 57a	3 58b	3.7	5.4	1.3	4.8	1.3	2.2	.....	2.6	2.6	2.6	11.0
17	11 15	5 10	10 27a	5 37b	3.2	4.7	1.1	4.2	1.2	2.1	.....	2.5	2.3	2.3	12.0
18	11 30	5 26	10 45a	5 51b	3.4	5.0	1.2	4.4	1.3	2.1	.....	2.5	2.4	2.4	12.0
19	11 50	5 47	11 20a	6 04b	7.7	11.2	2.6	9.3	1.9	3.2	.....	3.8	4.9	4.9	12.5
20	0 25	6 48	—0 04b	7 04b	8.1	11.8	2.8	9.7	2.0	3.3	.....	3.9	5.1	5.1	13.0
21	1 20	7 44	0 56b	7 54b	11.8	17.2	4.0	13.8	2.4	4.0	.....	4.7	7.3	7.2	13.0
22	2 15	8 40	1 57b	8 50b	21.6	31.5	7.3	24.2	3.2	5.3	.....	6.4	12.6	12.5	14.0
23	8 36	2 20	7 56a	2 57b	3.1	4.5	1.2	4.1	1.6	1.8	.....	2.5	2.2	2.1	10.5
24	8 17	1 59	7 31a	2 29b	4.0	5.3	2.4	6.1	1.9	2.9	.....	3.6	3.0	3.2	11.0
25	8 25	2 12	7 49a	2 45b	3.8	5.5	1.5	5.0	1.8	2.0	5 04	2.8	2.6	2.5	11.5
26	8 29	2 17	8 10a	2 33b	3.9	5.7	1.6	4.2	0.9	1.1	5 04	1.4	2.3	2.1	12.0
27	9 00	2 48	8 48a	3 01b	4.7	6.7	2.3	4.9	0.9	0.8	6 01	1.2	2.7	2.4	12.0
28	9 00	2 37	8 49a	2 48b	5.8	8.2	2.8	6.0	1.0	0.9	.....	1.3	3.2	4.0	12.5
29	9 05	2 42	8 28a	3 06b	5.9	7.8	3.5	8.4	2.3	3.6	.....	4.3	4.2	4.5	12.5
30	9 15	2 53	8 37a	3 18b	5.7	7.6	3.4	8.1	2.3	3.5	.....	4.3	4.1	4.3	13.0
31	9 19	2 56	8 38a	3 23b	4.8	6.4	2.9	7.0	2.1	3.2	.....	3.9	3.5	3.7	13.5
32	9 23	3 00	8 40a	3 30b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	13.5
33	9 27	3 05	8 44a	3 33b	4.4	5.8	2.6	6.5	2.0	3.1	.....	3.7	3.3	3.5	13.5
34	9 28	3 06	8 43a	3 40b	3.8	5.0	2.2	5.7	1.8	2.8	.....	3.4	2.9	3.1	14.0
35	9 29	3 07	8 46a	3 43b	3.9	5.2	2.3	5.9	1.9	2.9	.....	3.5	3.0	3.2	14.5
36	9 32	3 20	8 48a	3 55b	3.8	5.1	2.3	5.9	2.2	2.7	5 57	3.6	2.9	3.1	14.5
37	9 42	3 21	8 55a	3 51b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.9	3.0	15.0
38	9 45	3 24	8 57a	3 55b	3.5	4.7	2.1	5.4	1.8	2.7	.....	3.3	2.7	2.9	15.0
39	9 43	3 19	8 57a	3 49b	3.9	5.2	2.3	5.9	1.9	2.9	.....	3.5	3.0	3.2	15.5
40	9 36	3 13	8 51a	3 42b	4.1	5.5	2.5	6.2	1.9	3.0	.....	3.6	3.1	3.3	15.5
41	9 37	3 17	8 53a	3 45b	3.8	5.1	2.3	5.9	1.9	2.9	.....	3.5	2.9	3.1	15.5
42	9 32	3 15	8 45a	3 45b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	15.5
43	9 53	3 21	9 06a	3 51b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	15.5
44	9 37	3 15	8 49a	3 46b	3.6	4.8	2.2	5.5	1.8	2.8	.....	3.4	2.8	3.0	16.0
45	9 34	3 16	8 46a	3 47b	3.6	4.8	2.2	5.5	1.8	2.8	.....	3.4	2.8	3.0	16.0
46	9 28	3 08	8 41a	3 38b	3.8	5.1	2.3	5.9	1.9	2.9	.....	3.5	2.9	3.1	15.0
47	9 20	3 04	8 33a	3 34b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	15.5
48	9 29	3 06	8 42a	3 36b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	15.5
49	9 23	3 02	8 36a	3 32b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	15.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (WEST COAST)—Continued.											
CALIFORNIA—continued.											
Outer coast.		North.	West.				Time meridian, 120° W.		Mean Lower Low Water.		
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.	
1	Lompoc Landing.....	34 44	120 37	8 02	San Diego	149	+0 36	+0 38	-0.2	0.0	0.9
2	Point Sal.....	34 54	120 40	8 03	San Diego	149	+0 44	+0 47	-0.2	0.0	0.9
3	San Luis Obispo.....	35 11	120 44	8 03	San Diego	149	+0 59	+0 59	-0.2	-0.1	0.9
4	Morro, Morro Bay.....	35 21	120 50	8 03	San Diego	149	+1 13	+1 19	-0.2	-0.1	0.9
5	Cayucos, Estero Bay.....	35 27	120 55	8 04	San Diego	149	+1 16	+1 22	0.0	0.0	1.0
6	San Simeon.....	35 39	121 11	8 05	San Diego	149	+1 23	+1 31	0.0	0.0	1.0
7	Monterey Harbor Light.....	36 37	121 52	8 07	San Francisco Ent.	153	-0 59	-0 42	+0.2	-0.1	1.0
8	Santa Cruz Harbor Light.....	36 57	122 02	8 08	San Francisco Ent.	153	-0 47	-0 38	+0.6	+0.2	1.1
9	Half Moon Bay.....	37 30	122 27	8 10	San Francisco Ent.	153	-0 51	-0 39	+0.1	+0.1	1.0
10	Southeast Farallon Light.....	37 42	123 00	8 12	San Francisco Ent.	153	-0 57	-0 36	-0.1	+0.1	0.9
11	San Francisco Bar.....	37 46	122 38	8 11	San Francisco Ent.	153	-0 01	-0 07	-0.3	+0.1	0.9
San Francisco Bay, S. portion.											
12	SAN FRANCISCO (Fort Point).....	37 49	122 29	8 10	San Francisco Ent.	153	0 00	0 00	0.0	0.0	1.0
13	Presidio.....	37 48	122 27	8 10	San Francisco Ent.	153	+0 04	+0 04	0.0	-0.1	1.0
14	Alcatraz Light.....	37 49	122 25	8 10	San Francisco Ent.	153	+0 11	+0 13	-0.3	0.0	0.9
15	San Francisco, North Beach.....	37 48	122 24	8 10	San Francisco Ent.	153	+0 26	+0 29	-0.1	+0.1	0.9
16	San Francisco, Mission street.....	37 48	122 24	8 10	San Francisco Ent.	153	+0 28	+0 31	+0.4	+0.1	1.0
17	Goat Island (Yerba Buena Light).....	37 48	122 22	8 09	San Francisco Ent.	153	+0 28	+0 33	+0.2	+0.1	1.0
18	Oakland.....	37 48	122 18	8 09	San Francisco Ent.	153	+0 31	+0 38	+0.7	+0.1	1.1
19	Alameda.....	37 46	122 18	8 09	San Francisco Ent.	153	+0 40	+0 56	+0.6	+0.2	1.1
20	Point Avisaadero.....	37 44	122 21	8 09	San Francisco Ent.	153	+0 32	+0 40	+0.9	+0.2	1.1
21	Roberts Landing.....	37 41	122 10	8 09	San Francisco Ent.	153	+0 50	+1 06	-0.6	0.0	0.8
22	Mt. Eden, Mt. Eden Slough.....	37 37	122 08	8 09	San Francisco Ent.	153	+1 18	+1 44	+0.4	+0.2	1.0
23	Union City, Union City Creek.....	37 36	122 06	8 08	San Francisco Ent.	153	+1 39	+2 07	-1.5	-0.1	0.9
24	San Mateo Point.....	37 35	122 19	8 09	San Francisco Ent.	153	+0 45	+0 56	+1.5	+0.3	1.1
25	Guano Island.....	37 34	122 15	8 09	San Francisco Ent.	153	+0 48	+1 10	+2.2	+0.4	1.4
26	Coyote Hill Creek Entrance.....	37 34	122 08	8 09	San Francisco Ent.	153	+1 00	+1 16	+2.2	+0.4	1.4
27	Johnsons Land'g, Coyote Hill Creek.....	37 34	122 06	8 08	San Francisco Ent.	153	+1 24	+1 45	+2.7	+0.4	1.5
28	Redwood City Creek Entrance.....	37 31	122 12	8 09	San Francisco Ent.	153	+0 56	+1 11	+2.5	+0.3	1.5
29	Mayhews Landing, Newark Slough.....	37 32	122 04	8 08	San Francisco Ent.	153	+1 14	+1 40	+2.4	+0.3	1.5
30	Ravenswood.....	37 28	122 06	8 08	San Francisco Ent.	153	+0 57	+1 22	+2.4	+0.3	1.5
San Francisco Bay, N. portion.											
31	Sausalito.....	37 51	122 29	8 10	San Francisco Ent.	153	+0 05	+0 19	-0.4	-0.2	0.9
32	Angel Island.....	37 51	122 26	8 10	San Francisco Ent.	153	+0 09	+0 27	-0.2	-0.1	1.0
33	West Berkeley.....	37 52	122 18	8 09	San Francisco Ent.	153	+0 45	+0 51	+0.5	+0.1	1.0
34	Point San Quentin.....	37 56	122 29	8 10	San Francisco Ent.	153	+0 58	+1 03	+0.3	+0.1	1.0
35	The Brothers Light.....	37 58	122 26	8 10	San Francisco Ent.	153	+1 01	+1 06	+0.4	+0.1	1.0
San Pablo Bay.											
36	McNears Landing.....	37 59	122 27	8 10	San Francisco Ent.	153	+1 02	+1 04	+0.1	0.0	1.0
37	Point Wilson.....	38 01	122 19	8 09	San Francisco Ent.	153	+1 40	+1 59	+0.8	0.0	1.2
38	Petaluma Point.....	38 06	122 29	8 10	San Francisco Ent.	153	+1 06	+1 32	+0.7	+0.1	1.1
39	Sonoma Creek Entrance.....	38 09	122 24	8 10	San Francisco Ent.	153	+1 22	+1 48	+0.7	+0.1	1.1
Carquines Strait.											
40	Mare Island Light.....	38 04	122 15	8 09	San Francisco Ent.	153	+1 45	+2 05	+0.9	0.0	1.2
41	Wheatport.....	38 03	122 13	8 09	San Francisco Ent.	153	+1 55	+2 19	+0.8	0.0	1.2
42	Benicia.....	38 03	122 08	8 09	San Francisco Ent.	153	+2 20	+2 44	+0.8	0.0	1.2
Suisun Bay.											
43	Seal Bluff.....	38 03	122 03	8 08	San Francisco Ent.	153	+2 27	+3 05	+1.2	+0.2	1.3
44	Suisun Creek Entrance.....	38 07	122 04	8 08	San Francisco Ent.	153	+2 39	+3 17	+1.0	+0.2	1.1
45	Antioch, San Joaquin River.....	38 01	121 49	8 07	San Francisco Ent.	153	+3 54	+4 53	+0.1	+0.1	1.0
Sacramento River.											
46	Collinsville.....	38 04	121 51	8 07	San Francisco Ent.	153	+3 21	+4 15	+0.1	+0.1	1.0
47	Sacramento.....	38 33	121 30	8 06	San Francisco Ent.	153	+8 03	+10 24	-2.8	-0.4	0.3
Outer coast.											
48	Drakes Bay.....	38 01	122 53	8 12	San Francisco Ent.	153	-0 04	+0 16	+0.6	+0.2	1.2
49	Point Reyes Light.....	38 00	123 01	8 12	San Francisco Ent.	153	-0 14	+0 07	+0.4	+0.1	1.0
50	Tomaes Bay.....	38 14	122 58	8 12	San Francisco Ent.	153	+0 28	+0 49	-0.1	+0.1	0.9
51	Bodega Bay.....	38 18	123 00	8 12	San Francisco Ent.	153	-0 18	+0 02	0.0	+0.1	0.9
52	Fort Ross.....	38 31	123 15	8 13	San Francisco Ent.	153	-0 31	-0 11	-0.1	+0.1	0.9

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn.).	Spring (Sg.).	Neap (Np.).	Great tropic (Gc.).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	9 55	3 45	9 07a	4 16b	3.6	4.8	2.2	5.5	1.8	2.8	.....	3.4	2.8	3.0	16.0
2	10 02	3 53	9 14a	4 24b	3.6	4.8	2.2	5.5	1.8	2.8	.....	3.4	2.8	3.0	16.0
3	10 17	4 05	9 30a	4 35b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	16.0
4	10 31	4 25	9 44a	4 55b	3.7	4.9	2.2	5.6	1.8	2.8	.....	3.4	2.8	3.0	16.5
5	10 33	4 27	9 46a	4 57b	3.8	5.1	2.3	5.8	1.9	2.9	.....	3.5	2.9	3.1	16.5
6	10 38	4 34	9 52a	5 04b	4.0	5.3	2.4	6.1	1.9	2.9	.....	3.6	3.0	3.2	16.5
7	10 43	4 24	9 43a	4 43b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.4	3.9	17.0
8	10 54	4 27	9 57a	4 45b	4.8	5.2	3.3	7.1	1.5	4.1	.....	4.4	3.6	4.1	17.0
9	10 48	4 24	9 48a	4 43b	3.9	4.7	3.0	6.6	1.4	3.9	.....	4.2	3.3	3.8	17.5
10	10 40	4 25	9 38a	4 45b	3.7	4.5	2.9	6.3	1.4	3.8	.....	4.1	3.2	3.6	17.5
11	11 37	4 55	10 35a	5 16b	3.5	4.2	2.7	6.1	1.4	3.7	.....	4.0	3.1	3.5	17.5
12	11 39	5 08	10 34a	5 27b	3.9	4.8	3.0	6.2	1.3	3.7	6 40	4.0	3.2	3.6	17.5
13	11 43	5 07	10 40a	5 27b	4.0	4.9	3.1	6.5	1.4	3.9	7 06	4.2	3.2	3.7	17.5
14	11 50	5 16	10 46a	5 37b	3.6	4.4	2.8	6.2	1.4	3.8	.....	4.1	3.1	3.5	17.5
15	12 05	5 32	11 05a	5 51b	3.7	4.5	2.8	6.3	1.4	3.8	.....	4.1	3.2	3.6	17.5
16	12 07	5 34	11 08a	5 53b	4.2	5.1	3.2	7.1	1.5	4.0	.....	4.4	3.5	4.1	17.5
17	12 08	5 37	11 08a	5 56b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.4	3.9	17.5
18	12 11	5 42	11 19a	6 02b	4.5	5.4	3.6	7.3	1.6	4.0	.....	4.4	3.6	4.2	17.5
19	12 20	6 00	11 23a	6 18b	4.3	5.2	3.3	7.1	1.5	4.1	.....	4.4	3.6	4.1	17.5
20	12 12	5 44	11 16a	6 02b	4.6	5.6	3.5	7.5	1.6	4.2	.....	4.6	3.8	4.4	17.5
21	0 05	6 10	—1 01b	6 31b	3.3	4.0	2.5	5.8	1.3	3.6	.....	3.9	2.9	3.2	17.5
22	0 33	6 48	—0 26b	7 07b	4.1	5.0	3.2	6.8	1.5	4.0	.....	4.3	3.5	4.0	17.5
23	0 55	7 12	—0 21b	7 36b	2.5	3.0	1.9	4.6	1.2	3.1	.....	3.4	2.4	2.7	17.5
24	0 00	6 00	—0 53b	6 17b	5.1	6.2	3.9	8.2	1.6	4.5	.....	4.8	4.1	4.8	17.5
25	0 03	6 14	—0 47b	6 31b	5.7	6.9	4.4	8.9	1.8	4.7	.....	5.1	4.5	5.2	17.5
26	0 15	6 20	—0 35b	6 37b	5.7	6.9	4.4	8.9	1.8	4.7	.....	5.1	4.5	5.2	17.5
27	0 40	6 50	—0 08b	7 06b	6.2	7.5	4.8	9.6	1.8	4.9	.....	5.3	4.8	5.5	17.5
28	0 11	6 15	—0 38b	6 31b	6.1	7.4	4.7	9.4	1.8	4.9	.....	5.3	4.6	5.4	17.5
29	0 30	6 45	—0 19b	7 02b	6.0	7.2	4.6	9.3	1.8	4.8	.....	5.2	4.6	5.4	17.5
30	0 13	6 27	—0 36b	6 44b	6.0	7.2	4.6	9.3	1.8	4.8	.....	5.2	4.6	5.4	17.5
31	11 44	5 22	10 45a	5 45b	3.7	4.5	2.9	6.0	1.5	3.5	6 59	3.8	2.9	3.4	18.0
32	11 48	5 30	10 50a	5 52b	3.8	4.6	3.0	6.2	1.5	3.5	.....	3.8	3.1	3.5	18.0
33	0 00	5 55	—0 53b	6 15b	4.3	5.2	3.4	7.1	1.7	3.9	.....	4.3	3.5	4.0	18.0
34	0 12	6 06	—0 42b	6 26b	4.1	4.9	3.2	6.8	1.6	3.8	.....	4.2	3.4	3.8	18.0
35	0 15	6 09	—0 38b	6 29b	4.2	5.0	3.3	6.9	1.6	3.9	.....	4.2	3.5	3.9	18.0
36	0 16	6 07	—0 30b	6 35b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.2	3.7	18.0
37	0 55	7 03	—0 04b	7 22b	4.7	5.6	3.7	7.6	1.7	4.1	.....	4.5	3.6	4.3	18.0
38	0 20	6 35	—0 28b	6 59b	4.5	5.4	3.5	7.4	1.7	4.0	.....	4.4	3.6	4.2	18.0
39	0 36	6 51	—0 16b	7 11b	4.5	5.4	3.5	7.4	1.7	4.0	.....	4.4	3.6	4.2	18.0
40	1 00	7 09	0 10b	7 29b	4.8	5.6	3.7	7.6	1.7	4.1	.....	4.5	3.6	4.3	18.0
41	1 10	7 23	0 19b	7 42b	4.7	5.6	3.7	7.6	1.7	4.1	.....	4.5	3.6	4.3	18.0
42	1 35	7 48	0 43b	8 08b	4.7	5.6	3.7	7.6	1.7	4.1	.....	4.5	3.6	4.3	18.0
43	1 43	8 10	0 53b	8 29b	4.9	5.9	3.8	7.9	1.8	4.2	.....	4.6	3.9	4.5	18.0
44	1 55	8 22	1 04b	8 41b	4.7	5.6	3.7	7.6	1.7	4.1	.....	4.5	3.8	4.3	18.0
45	3 11	9 59	2 15b	10 20b	3.9	4.7	3.0	6.6	1.6	3.7	.....	4.1	3.3	3.7	18.0
46	2 38	9 21	1 42b	9 42b	3.9	4.7	3.0	6.6	1.6	3.7	.....	4.1	3.3	3.7	18.0
47	7 21	3 06	5 52b	3 39a	1.5	1.8	1.2	3.2	1.0	2.3	.....	2.5	1.6	1.8	17.0
48	11 33	5 17	10 36a	5 35b	4.3	5.2	3.3	7.1	1.5	4.1	.....	4.4	3.6	4.1	17.5
49	11 23	5 08	10 24a	5 27b	4.2	5.1	3.2	7.1	1.5	4.0	.....	4.4	3.5	4.1	17.5
50	12 00	5 50	10 58a	6 10b	3.7	4.5	2.9	6.3	1.4	3.8	.....	4.1	3.2	3.6	18.0
51	11 19	5 03	10 17a	5 23b	3.8	4.6	2.9	6.5	1.4	3.9	.....	4.2	3.3	3.7	18.0
52	11 05	4 49	10 03a	5 09b	3.7	4.5	2.9	6.3	1.4	3.8	.....	4.1	3.2	3.6	18.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.					
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Ratio of range.		
			Arc.	Time.			HW.	LW.	HW.	LW.			
NORTH AMERICA (WEST COAST)—Continued.										Time meridian, 120° W.		Mean Lower Low Water.	
CALIFORNIA—continued.										h. m.		feet.	
Outer coast—Continued.										h. m.		feet.	
1	Point Arenas Light.....	38 57	123 44	8 15	San Francisco Ent	153	-0 58	-0 37	-0.5	0.0	0.5		
2	Navarro River Entrance.....	39 12	123 45	8 15	San Francisco Ent	153	-0 55	-0 33	-0.3	0.0	0.2		
3	Little River Harbor.....	39 16	123 47	8 15	San Francisco Ent	153	-1 04	-0 41	+0.2	-0.1	1.5		
4	Mendocino Bay.....	39 18	123 47	8 15	San Francisco Ent	153	-0 59	-0 34	-0.1	0.0	0.7		
5	Fort Bragg Landing.....	39 26	123 49	8 15	San Francisco Ent	153	-0 34	-0 08	+0.1	+0.1	1.0		
6	Westport.....	39 38	123 47	8 15	San Francisco Ent	153	-0 34	-0 14	+0.2	+0.1	1.5		
7	Shelter Cove.....	40 02	124 03	8 16	San Francisco Ent	153	-0 43	-0 22	+0.2	+0.1	1.0		
8	Cape Mendocino Bay.....	40 26	124 25	8 18	San Francisco Ent	153	-0 31	-0 05	+0.1	+0.1	1.0		
9	Eel River Bar.....	40 38	124 19	8 17	Astoria.....	157	-1 28	-1 45	-2.1	-0.2	0.7		
10	Humboldt Bay Bar.....	40 45	124 15	8 17	Astoria.....	157	-1 05	-1 21	-2.2	-0.2	0.6		
11	Red Bluff, Humboldt Bay.....	40 45	124 13	8 17	Astoria.....	157	-0 59	-1 15	-2.1	-0.2	0.7		
12	Eureka, Humboldt Bay.....	40 48	124 10	8 17	Astoria.....	157	-0 41	-0 55	-1.9	-0.2	0.7		
13	Trinidad Harbor Light.....	41 03	124 09	8 17	Astoria.....	157	-1 11	-1 29	-1.9	-0.2	0.7		
14	Crescent City Light.....	41 45	124 12	8 17	Astoria.....	157	-1 05	-1 25	-1.8	-0.2	0.7		
OREGON.													
15	Chetko Cove.....	42 03	124 16	8 17	Astoria.....	157	-0 57	-1 15	-2.0	-0.2	0.7		
16	Rogue River.....	42 25	124 25	8 18	Astoria.....	157	-0 55	-1 00	-2.0	-0.2	0.7		
17	Port Orford.....	42 44	124 30	8 18	Astoria.....	157	-1 05	-1 24	-1.7	-0.2	0.7		
18	Bandon, Coquille River.....	43 07	124 25	8 18	Astoria.....	157	-1 05	-0 55	-2.3	-0.2	0.7		
Coos Bay.													
19	Coos Bay Bar.....	43 21	124 21	8 17	Astoria.....	157	-0 43	-0 51	-1.7	-0.2	0.7		
20	Empire.....	43 24	124 17	8 17	Astoria.....	157	0 00	+0 01	-2.6	-0.2	0.6		
21	North Bend.....	43 25	124 14	8 17	Astoria.....	157	+0 40	+0 44	-2.4	-0.2	0.6		
22	Marshfield.....	43 22	124 13	8 17	Astoria.....	157	+1 51	+1 19	-2.1	-0.2	0.7		
Umpqua River.													
23	Bar at Entrance.....	43 41	124 12	8 17	Astoria.....	157	-0 08	-0 10	-1.4	-0.1	0.7		
24	Gardiner.....	43 44	124 06	8 16	Astoria.....	157	+0 14	+0 27	-1.4	-0.2	0.8		
Outer coast.													
25	Sluslaw River Entrance.....	44 01	124 07	8 16	Astoria.....	157	-0 30	-0 16	-1.2	-0.1	0.8		
26	Alseya Harbor Entrance.....	44 28	124 06	8 16	Astoria.....	157	-0 38	-0 49	-0.5	0.0	0.9		
Yaquina Bay and River.													
27	Bar at Entrance.....	44 37	124 05	8 16	Astoria.....	157	-0 49	-1 04	-0.4	0.0	0.8		
28	Newport.....	44 38	124 04	8 16	Astoria.....	157	-0 45	-1 03	-0.2	0.0	0.9		
29	Yaquina City.....	44 36	124 02	8 16	Astoria.....	157	-0 32	-0 41	-0.1	0.0	0.8		
30	Oysterville.....	44 35	124 01	8 16	Astoria.....	157	-0 19	-0 20	0.0	0.0	1.0		
Outer coast.													
31	Nestugga Bay Entrance.....	45 09	123 59	8 16	Astoria.....	157	-0 27	-0 30	-0.5	0.0	0.9		
32	Hobsonville, Tillamook Bay.....	45 34	123 57	8 16	Astoria.....	157	-0 08	-0 18	0.0	0.0	1.0		
33	Nehalem River Entrance.....	45 40	123 56	8 16	Astoria.....	157	-0 31	-0 44	-0.2	0.0	0.9		
OREGON AND WASHINGTON.													
Columbia River.													
34	Columbia River Bar, Oreg.....	46 13	124 05	8 16	Astoria.....	157	-0 29	-0 31	-0.2	0.0	0.9		
35	Point Adams (Clatsop), Oreg.....	46 12	123 59	8 16	Astoria.....	157	-0 09	-0 12	-0.1	0.0	0.9		
36	Cape Disappointment, Wash.....	46 17	124 03	8 16	Astoria.....	157	-0 17	-0 22	-0.1	0.0	0.9		
37	ASTORIA, Oreg.....	46 11	123 50	8 15	Astoria.....	157	0 00	0 00	0.0	0.0	1.0		
38	Skeppernawin Creek, Oreg.....	46 10	123 55	8 16	Astoria.....	157	-0 02	+0 05	+0.2	0.0	1.0		
39	Tongue Point, Oreg.....	46 13	123 46	8 15	Astoria.....	157	+0 19	+0 30	-0.1	0.0	0.9		
40	Marsh Island Creek, Oreg.....	46 14	123 35	8 14	Astoria.....	157	+0 41	+0 54	-0.5	0.0	0.8		
41	Three Tree Point, Wash.....	46 16	123 31	8 14	Astoria.....	157	+1 03	+1 16	-0.8	0.0	0.7		
42	Cathlamet, Wash.....	46 12	123 23	8 14	San Diego.....	149	+5 12	+6 11	+1.2	+0.1	1.2		
43	Eagle Cliff, Wash.....	46 11	123 12	8 13	San Diego.....	149	+5 34	+7 06	0.0	0.0	0.9		
44	Oak Point, Wash.....	46 11	123 11	8 13	San Diego.....	149	+5 49	+7 17	-0.2	-0.1	0.9		
45	Rinearson, Oreg.....	46 08	123 05	8 12	San Diego.....	149	+6 12	+7 38	-0.7	-0.1	0.8		
46	Rainier, Oreg.....	46 05	122 56	8 12	San Diego.....	149	+6 25	+7 59	-1.1	-0.2	0.7		
47	Kalama, Wash.....	46 00	122 51	8 11	San Diego.....	149	+6 55	+8 28	-1.4	-0.2	0.7		
48	St. Helens Bar, Oreg.....	45 51	122 48	8 11	San Diego.....	149	+7 56	+9 28	-2.1	-0.3	0.5		
49	Willamette River Entrance, Oreg.....	45 39	122 46	8 11	San Diego.....	149	+9 27	+10 55	-3.2	-0.5	0.5		
50	Old Fort Vancouver, Wash.....	45 37	122 39	8 11	San Diego.....	149	+9 58	+11 29	-3.5	-0.5	0.2		

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	10 36	4 21	9 32a	4 42b	3.4	4.1	2.6	5.9	1.3	3.6	.....	3.9	3.0	3.3	18.0
2	10 39	4 25	9 35a	4 46b	3.6	4.4	2.8	6.2	1.4	3.8	.....	4.1	3.1	3.5	18.5
3	10 30	4 17	9 30a	4 36b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.4	3.9	18.6
4	10 35	4 24	9 33a	4 44b	3.8	4.6	2.9	6.5	1.4	3.9	.....	4.2	3.2	3.7	18.6
5	11 00	4 50	10 00a	5 09b	3.9	4.7	3.0	6.6	1.4	3.9	.....	4.2	3.3	3.8	18.5
6	11 00	4 44	10 00a	5 03b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.4	3.9	19.0
7	10 50	4 35	9 50a	4 54b	4.0	4.8	3.1	6.8	1.5	4.0	.....	4.3	3.4	3.9	19.0
8	11 00	4 50	10 00a	5 09b	3.9	4.7	3.0	6.6	1.4	3.9	.....	4.2	3.3	3.8	19.0
9	11 10	4 55	10 28a	5 15b	4.4	5.5	3.2	6.5	1.6	3.1	.....	3.5	3.3	3.6	19.0
10	11 33	5 19	10 51a	5 39b	4.3	5.3	3.1	6.4	1.6	3.0	.....	3.5	3.2	3.5	19.5
11	11 39	5 25	10 57a	5 45b	4.4	5.5	3.2	6.5	1.6	3.1	.....	3.5	3.3	3.6	19.5
12	11 57	5 45	11 16a	6 05b	4.6	5.7	3.3	6.7	1.6	3.1	.....	3.6	3.4	3.7	19.5
13	11 27	5 11	10 46a	5 31b	4.6	5.7	3.3	6.7	1.6	3.1	.....	3.6	3.4	3.7	19.5
14	11 33	5 15	10 53a	5 34b	4.7	5.8	3.4	6.9	1.6	3.2	.....	3.6	3.5	3.8	20.0
15	11 41	5 25	11 00a	5 45b	4.5	5.6	3.2	6.5	1.6	3.1	.....	3.5	3.4	3.6	20.0
16	11 42	5 39	11 01a	5 59b	4.5	5.6	3.2	6.5	1.6	3.1	.....	3.5	3.4	3.6	20.0
17	11 32	5 15	10 52a	5 34b	4.8	6.0	3.5	7.0	1.7	3.2	.....	3.7	3.5	3.8	20.0
18	11 32	5 44	10 50a	6 04b	4.2	5.2	3.0	6.3	1.6	3.0	.....	3.4	3.2	3.5	20.5
19	11 55	5 49	11 15a	6 08b	4.8	6.0	3.5	7.0	1.7	3.2	.....	3.7	3.5	3.8	20.5
20	0 13	6 41	0 31b	7 02b	3.9	4.8	2.8	5.9	1.5	2.9	.....	3.3	3.0	3.3	20.5
21	0 53	7 24	0 10b	7 45b	4.1	5.1	3.0	6.1	1.5	3.0	.....	3.4	3.1	3.4	20.5
22	2 04	7 59	1 22b	8 19b	4.4	5.3	3.2	6.5	1.6	3.1	.....	3.5	3.3	3.6	20.5
23	0 05	6 30	0 33b	6 48b	5.0	6.2	3.6	7.3	1.7	3.3	.....	3.7	3.7	4.0	21.0
24	0 36	7 08	0 03b	7 27b	5.1	6.3	3.7	7.4	1.7	3.3	.....	3.8	3.7	4.0	21.0
25	12 09	6 25	11 31a	6 43b	5.2	6.5	3.7	7.5	1.7	3.4	.....	3.8	3.8	4.1	21.5
26	12 01	5 52	11 25a	6 09b	5.8	7.2	4.2	8.2	1.8	3.5	.....	4.0	4.2	4.5	21.5
27	11 50	5 37	11 14a	5 54b	5.9	7.3	4.3	8.3	1.8	3.6	.....	4.1	4.2	4.7	21.5
28	11 54	5 38	11 19a	5 55b	6.1	7.6	4.4	8.6	1.9	3.6	.....	4.1	4.3	4.7	21.5
29	12 07	6 00	11 32a	6 17b	6.2	7.7	4.5	8.7	1.9	3.7	.....	4.2	4.4	4.8	21.5
30	12 20	6 21	11 45a	6 38b	6.3	7.8	4.5	8.8	1.9	3.7	.....	4.2	4.5	4.9	21.5
31	12 12	6 11	11 36a	6 28b	5.8	7.2	4.2	8.2	1.9	3.5	.....	4.0	4.2	4.5	22.0
32	12 31	6 23	11 56a	6 40b	6.3	7.8	4.5	8.8	1.9	3.7	.....	4.2	4.5	4.9	22.0
33	12 08	5 57	11 33a	6 14b	6.1	7.6	4.4	8.6	1.9	3.6	.....	4.1	4.3	4.7	22.0
34	12 10	6 10	11 35a	6 27b	6.1	7.6	4.4	8.6	1.9	3.6	.....	4.1	4.3	4.7	22.5
35	0 05	6 29	0 30b	6 46b	6.2	7.7	4.5	8.7	1.9	3.7	.....	4.2	4.4	4.8	22.5
36	12 22	6 19	11 47a	6 36b	6.2	7.7	4.5	8.7	1.9	3.7	.....	4.2	4.4	4.8	22.5
37	0 15	6 42	0 22b	6 58b	6.4	7.7	4.8	9.0	2.0	4.0	8 19	4.3	4.6	4.9	22.5
38	0 12	6 46	0 22b	7 02b	6.5	8.1	4.7	9.0	1.9	3.7	.....	4.3	4.6	4.9	22.5
39	0 34	7 12	0 01b	7 29b	6.2	7.7	4.5	8.7	1.9	3.7	.....	4.2	4.4	4.8	22.5
40	0 57	7 37	0 21b	7 54b	5.8	7.2	4.2	8.2	1.8	3.5	.....	4.0	4.2	4.5	22.5
41	1 19	7 59	0 42b	8 17b	5.5	6.8	4.0	7.9	1.8	3.5	.....	3.9	4.0	4.3	22.5
42	1 53	9 05	1 13b	9 24b	4.9	6.1	3.5	7.2	1.7	3.3	.....	3.7	3.6	3.9	22.5
43	2 16	10 01	1 31b	10 23b	3.8	4.7	2.7	5.8	1.5	2.9	.....	3.3	2.9	3.2	22.5
44	2 31	10 12	1 46b	10 34b	3.7	4.6	2.7	5.6	1.5	2.8	.....	3.2	2.8	3.1	22.5
45	2 55	10 34	2 06b	10 58b	3.2	4.0	2.3	5.0	1.4	2.6	.....	3.0	2.5	2.8	22.5
46	3 08	10 55	2 18b	11 19b	2.9	3.6	2.1	4.6	1.3	2.5	.....	2.8	2.3	2.6	22.0
47	3 39	11 25	2 45b	11 51b	2.6	3.2	1.9	4.2	1.2	2.4	.....	2.7	2.1	2.4	22.0
48	4 40	0 00	3 39b	0 30a	2.0	2.5	1.4	3.4	1.1	2.1	.....	2.4	1.7	1.9	22.0
49	6 11	1 30	4 46b	2 11a	1.1	1.4	0.8	2.1	0.8	1.5	.....	1.8	1.1	1.2	22.0
50	6 42	2 01	5 04b	2 48a	0.8	1.0	0.6	1.7	0.7	1.3	.....	1.5	0.9	1.0	22.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Ratio of range.	
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (WEST COAST)—Continued.												
WASHINGTON—continued.												
Columbia River—Continued.		North.	West.				Time meridian, 120° W.	Mean Lower Low Water.				
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.		
1	Willapa Bay Entrance.....	46 38	124 06	8 16	Astoria.....	157	-0 14	-0 41	-0.1	0.0	0.9	
2	South Bend, Willapa Bay.....	46 40	123 48	8 15	Astoria.....	157	+0 30	-0 07	+1.4	+0.2	1.3	
3	Oysterville, Willapa Bay.....	46 32	124 02	8 16	Astoria.....	157	+0 21	-0 11	+1.2	+0.1	1.2	
4	Sealand, Willapa Bay.....	46 29	124 02	8 16	Astoria.....	157	+0 31	-0 01	+1.2	+0.1	1.2	
5	Grays Harbor Entrance.....	46 54	124 10	8 17	Astoria.....	157	-0 23	-0 55	+0.6	0.0	1.0	
6	Hoquiam, Grays Harbor.....	46 58	123 53	8 16	Astoria.....	157	+0 12	-0 13	+2.2	+0.2	1.2	
7	Laidlaw, Grays Harbor.....	46 52	124 05	8 16	Astoria.....	157	-0 10	-0 13	+0.8	+0.1	1.0	
8	Destruction Island.....	47 40	124 30	8 18	Astoria.....	157	-0 37	-0 44	+1.0	0.0	1.0	
9	Quillihute River.....	47 53	124 39	8 19	Astoria.....	157	-0 18	-0 38	+0.4	0.0	1.0	
10	Cape Alava (Flattery Rocks).....	48 10	124 44	8 19	Astoria.....	157	-0 29	-0 36	+0.8	0.0	1.1	
Juan de Fuca Strait.												
11	Cape Flattery Lt., Tatoosh Island..	48 23	124 44	8 19	Astoria.....	157	-0 03	-0 22	-0.8	0.0	0.9	
12	Neah Bay.....	48 22	124 38	8 19	Astoria.....	157	-0 11	-0 20	-0.7	-0.1	0.2	
13	Pysht River Entrance.....	48 13	124 07	8 16	Astoria.....	157	+1 03	+0 35	-1.2	-0.2	0.4	
14	Port Angeles.....	48 08	123 26	8 14	Port Townsend...	161	-1 33	-1 06	-2.3	-1.5	0.7	
15	New Dungeness Light.....	48 11	123 07	8 12	Port Townsend...	161	-1 04	-0 57	-2.6	-1.6	0.9	
16	Washington Harbor.....	48 04	123 02	8 12	Port Townsend...	161	-0 40	-0 29	-1.9	-1.5	0.9	
17	Port Discovery.....	48 02	122 52	8 11	Port Townsend...	161	-0 28	-0 20	-1.8	-1.4	0.6	
18	Smith Island Light.....	48 19	122 51	8 11	Port Townsend...	161	-0 07	-0 04	-2.0	-1.6	0.8	
19	Partridge Point.....	48 14	122 46	8 11	Port Townsend...	161	-0 01	-0 02	-1.6	-1.4	0.8	
Admiralty Inlet.												
20	PORT TOWNSEND.....	48 07	122 45	8 11	Port Townsend...	161	0 00	0 00	0.0	0.0	1.00	
21	Marrowstone Point.....	48 06	122 41	8 11	Port Townsend...	161	+0 09	+0 15	+0.4	0.0	1.0	
22	Oak Bay.....	48 01	122 43	8 11	Port Townsend...	161	+0 11	+0 19	+1.0	0.0	1.0	
Hood Canal.												
23	Port Ludlow.....	47 56	122 41	8 11	Port Townsend...	161	+0 13	+0 24	+1.4	+0.2	1.2	
24	Port Gamble.....	47 51	122 34	8 10	Port Townsend...	161	+0 15	+0 27	+1.9	+0.3	1.3	
25	Seabeck.....	47 36	122 49	8 11	Port Townsend...	161	+0 47	+1 01	+3.4	+0.6	1.7	
26	Union City.....	47 21	123 06	8 12	Port Townsend...	161	+0 32	+0 59	+3.6	+0.6	1.5	
Puget Sound.												
27	Point No Point Light.....	47 55	122 32	8 10	Port Townsend...	161	+0 19	+0 29	+1.8	+0.2	1.5	
28	Port Madison.....	47 42	122 32	8 10	Port Townsend...	161	+0 32	+0 50	+2.5	+0.1	1.4	
29	West Point Light, Shilshole Bay...	47 39	122 26	8 10	Port Townsend...	161	+0 33	+0 57	+2.6	+0.2	1.4	
30	Seattle, Elliott Bay.....	47 37	122 20	8 09	Port Townsend...	161	+0 33	+0 59	+2.8	+0.2	1.5	
31	Port Blakely.....	47 36	122 31	8 10	Port Townsend...	161	+0 37	+0 56	+3.0	+0.2	1.5	
32	Bremerton, Port Orchard Naval Sta.	47 34	122 37	8 10	Port Townsend...	161	+0 39	+1 02	+2.6	0.0	1.3	
33	Tacoma.....	47 16	122 26	8 10	Port Townsend...	161	+0 44	+1 12	+3.6	+0.6	1.6	
34	Stellacoom.....	47 11	122 36	8 10	Port Townsend...	161	+0 58	+1 31	+4.8	+0.8	1.8	
35	Dofflemeyer Point, Budd Inlet.....	47 08	122 54	8 12	Port Townsend...	161	+1 05	+1 43	+6.7	+1.1	2.0	
36	Olympia, Budd Inlet.....	47 04	122 54	8 12	Port Townsend...	161	+1 09	+1 49	+6.8	+1.0	2.0	
Possession Sound and Port Susan.												
37	Muckilteo.....	47 57	122 18	8 09	Port Townsend...	161	+0 36	+0 51	+2.1	+0.3	1.5	
38	Tulalip.....	48 03	122 17	8 09	Port Townsend...	161	+0 26	+1 08	+2.6	+0.4	1.4	
39	Livingston Bay.....	48 14	122 27	8 10	Port Townsend...	161	+0 51	+0 56	+4.6	+0.8	1.7	
Saraloga Passage.												
40	Holmes Harbor.....	48 03	122 33	8 10	Port Townsend...	161	+0 29	+0 57	+4.0	+0.6	1.6	
41	Coupeville.....	48 13	122 41	8 11	Port Townsend...	161	+0 32	+1 03	+3.6	+0.6	1.6	
Skagit Bay.												
42	Utsalady.....	48 15	122 30	8 10	Port Townsend...	161	+0 32	+1 03	+3.3	+0.5	1.5	
43	La Conner.....	48 23	122 30	8 10	Port Townsend...	161	+0 37	+1 06	+3.1	+0.5	1.5	
44	Deception Pass.....	48 25	122 37	8 10	Port Townsend...	161	+0 17	+0 32	0.0	-0.2	1.2	
Rosario Strait, etc.												
45	Burrows Bay, Allan Island.....	48 29	122 42	8 11	Port Townsend...	161	+0 16	+0 13	-2.0	-2.2	1.0	
46	Anacortes, Fidalgo Island.....	48 31	122 36	8 10	Port Townsend...	161	+0 14	+0 46	-0.6	-1.8	1.2	
47	Thatcher Pass, Decatur Island.....	48 32	122 48	8 11	Port Townsend...	161	+0 38	+0 28	-1.8	-2.0	1.0	
48	Peavine Pass, Obstruction Island...	48 36	122 48	8 11	Port Townsend...	161	+0 41	+0 28	-1.6	-2.0	1.0	
49	Strawberry Bay, Cypress Island.....	48 34	122 43	8 11	Port Townsend...	161	+0 33	+0 28	-1.9	-2.1	1.0	
50	Eagle Harbor, Cypress Island.....	48 35	122 42	8 11	Port Townsend...	161	+0 43	+0 58	-1.6	-2.0	1.0	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	0 00	6 00	— 0 35	6 17b	6.2	7.7	4.6	8.7	1.9	3.7	.....	4.2	4.4	4.8	23.0
2	0 45	6 35	0 13b	6 50b	7.5	9.3	5.4	10.3	2.1	4.0	.....	4.6	5.2	5.6	23.0
3	0 35	6 30	0 08b	6 45b	7.4	9.2	5.3	10.2	2.1	4.0	.....	4.5	5.1	5.5	23.0
4	0 45	6 40	0 13b	6 55b	7.4	9.2	5.3	10.2	2.1	4.0	.....	4.5	5.1	5.5	23.0
5	12 15	5 45	11 42a	6 01b	6.9	8.6	5.0	9.6	2.0	3.9	.....	4.4	4.8	5.2	23.0
6	0 26	6 28	— 0 04b	6 42b	8.3	10.3	6.0	11.2	2.2	4.2	.....	4.8	5.6	6.0	23.0
7	0 04	6 28	— 0 29b	6 44b	7.0	8.7	5.0	9.7	2.0	3.9	.....	4.4	4.9	5.3	23.0
8	12 00	5 55	11 28a	6 11b	7.3	9.1	5.3	10.0	2.0	4.0	.....	4.5	5.0	5.5	23.5
9	12 18	6 00	11 45a	6 16b	6.7	8.3	4.8	9.8	2.0	3.8	.....	4.3	4.7	5.2	24.0
10	12 07	6 02	11 35a	6 18b	7.1	8.8	5.1	9.8	2.0	3.9	.....	4.4	4.9	5.3	24.0
11	0 08	6 16	— 0 28b	6 34b	5.7	7.1	4.1	8.1	1.8	3.5	.....	4.0	4.1	4.4	24.0
12	0 00	6 18	— 0 36b	6 35b	5.8	7.2	4.2	8.2	1.8	3.5	.....	4.0	4.1	4.5	24.0
13	1 17	7 16	0 39b	7 34b	5.3	6.6	3.8	7.7	1.8	3.4	.....	3.9	3.8	4.2	24.0
14	2 10	8 23	3 41a	8 16b	4.4	5.3	3.4	8.3	1.0	7.5	.....	7.5	4.8	5.7	24.0
15	2 42	8 34	4 39a	8 27b	4.2	5.0	3.3	8.2	0.9	7.1	.....	7.1	4.6	5.3	24.0
16	3 06	9 02	4 55a	8 56b	4.8	5.8	3.7	9.1	1.0	7.6	.....	7.6	5.0	5.8	24.0
17	3 19	9 12	5 07a	9 06b	4.9	5.9	3.8	9.3	1.0	7.7	.....	7.7	5.1	5.9	24.0
18	3 40	9 28	5 35a	9 29b	4.7	5.6	3.7	9.0	1.0	7.5	.....	7.5	4.9	5.7	24.0
19	3 46	9 30	5 38a	9 34b	5.0	6.0	3.9	9.4	1.0	7.8	.....	7.8	5.2	6.0	24.0
20	3 47	9 32	5 39a	9 25b	5.2	6.2	4.0	9.5	0.6	8.1	9 26	8.1	7.4	6.2	23.5
21	3 56	9 47	5 37a	9 41b	5.6	6.7	4.4	10.3	1.1	8.2	.....	8.2	7.6	6.5	23.5
22	3 58	9 51	5 36a	9 45b	6.0	7.2	4.7	10.8	1.1	8.5	.....	8.5	7.9	6.8	23.5
23	4 00	9 56	5 35a	9 50b	6.3	7.6	4.9	11.3	1.2	8.7	.....	8.7	8.2	7.1	23.5
24	4 03	10 00	5 35a	9 55b	6.7	8.0	5.2	11.8	1.2	9.0	.....	9.0	8.5	7.4	23.5
25	4 34	10 33	5 58a	10 28b	8.0	9.6	6.2	13.6	1.3	9.8	.....	9.8	9.4	8.4	23.5
26	4 18	10 30	5 42a	10 25b	8.1	9.7	6.3	13.7	1.3	9.9	.....	9.9	9.5	8.5	23.5
27	4 07	10 02	5 40a	9 57b	6.6	7.9	5.2	11.7	1.2	8.9	.....	8.9	8.4	7.3	23.5
28	4 20	10 23	5 38a	10 18b	7.5	9.0	5.8	12.5	1.3	8.5	.....	8.5	8.7	7.0	23.5
29	4 21	10 30	5 33a	10 20b	7.6	9.1	5.9	12.6	1.4	8.6	.....	8.6	8.8	7.7	23.0
30	4 22	10 33	5 34a	10 24b	7.7	9.2	6.0	12.7	1.4	8.7	9 52	8.6	8.9	7.8	23.0
31	4 25	10 29	5 51a	10 24b	7.8	9.4	6.1	13.3	1.3	8.8	.....	8.8	9.0	8.3	23.0
32	4 27	10 35	5 49a	10 30b	7.8	9.4	6.1	13.3	1.3	8.0	.....	8.0	8.7	8.6	23.0
33	4 32	10 45	5 55a	10 40b	8.2	9.8	6.4	13.8	1.3	9.9	.....	9.9	9.5	8.6	23.0
34	4 46	11 04	6 05a	10 58b	9.2	11.0	7.2	15.2	1.4	10.5	.....	10.5	10.2	9.3	23.0
35	4 51	11 14	6 04a	11 10b	10.7	12.8	8.4	17.1	1.5	11.3	.....	11.3	11.3	10.5	23.0
36	4 55	11 20	6 08a	11 16b	10.8	13.0	8.4	17.3	1.5	11.4	.....	11.4	11.3	10.6	23.0
37	4 25	10 25	5 56a	10 20b	6.9	8.3	5.4	12.1	1.2	9.1	.....	9.1	8.6	7.6	23.5
38	4 15	10 42	5 44a	10 37b	7.3	8.8	5.7	12.6	1.2	9.3	.....	9.4	8.9	7.9	23.5
39	4 39	10 29	5 59a	10 24b	9.0	10.8	7.0	14.9	1.4	10.4	.....	10.4	10.1	9.1	23.5
40	4 17	10 30	5 39a	10 25b	8.5	10.2	6.6	14.3	1.3	10.1	.....	10.1	9.7	8.9	23.5
41	4 19	10 35	5 42a	10 30b	8.2	9.8	6.4	13.9	1.3	9.9	.....	9.9	9.5	8.6	24.0
42	4 20	10 36	5 46a	10 31b	7.9	9.5	6.2	13.5	1.3	9.7	.....	9.8	9.3	8.4	23.5
43	4 25	10 39	5 51a	10 34b	7.7	9.2	6.0	13.2	1.3	9.6	.....	9.6	9.2	8.3	24.0
44	4 05	10 05	5 50a	9 59b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	7.3	6.2	24.0
45	4 03	9 45	5 48a	9 39b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	5.8	6.2	24.0
46	4 02	10 19	6 00a	9 54b	6.3	7.5	5.0	11.3	1.2	8.7	.....	8.8	6.2	7.1	24.0
47	4 25	10 00	6 09a	9 54b	5.4	6.5	4.2	10.0	1.1	8.1	.....	8.1	5.5	6.3	24.0
48	4 28	10 00	6 11a	9 54b	5.5	6.6	4.3	10.1	1.1	8.1	.....	8.2	5.6	6.4	24.0
49	4 20	10 00	6 04a	9 54b	5.3	6.4	4.1	9.9	1.1	8.0	.....	8.0	5.4	6.3	24.0
50	4 30	10 30	6 13a	10 24b	5.5	6.6	4.3	10.1	1.1	8.1	.....	8.2	5.6	6.4	24.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (WEST COAST)—Continued.												
WASHINGTON—continued.												
Padilla Bay.		North.	West.	A. m.				Time meridian, 120° W.		Mean Lower Low Water.		
		° ' "	° ' "	h. m.				A. m.	h. m.	feet.	feet.	
1	Bayview.....	48 29	122 29	8 10	Port Townsend...	161	+1 02	+1 17	-1.6	-2.0	1.1	
2	Hat Island.....	48 32	122 33	8 10	Port Townsend...	161	+0 42	+1 07	-1.8	-2.0	1.1	
Bellingham Bay.												
3	William Point, Samish Island.....	48 35	122 32	8 10	Port Townsend...	161	+0 47	+0 57	-1.9	-2.1	1.1	
4	Chuckanut Bay.....	48 40	122 30	8 10	Port Townsend...	161	+0 57	+0 55	-2.0	-2.2	1.1	
5	Bellingham.....	48 43	122 31	8 10	Port Townsend...	161	+0 59	+0 57	-2.0	-2.2	1.1	
Lummi Bay.												
6	Point Migley.....	48 45	122 43	8 11	Port Townsend...	161	+1 03	+1 01	-2.0	-2.2	1.1	
7	Sandy Point.....	48 47	122 42	8 11	Port Townsend...	161	+1 06	+1 13	-1.9	-2.1	1.1	
Georgia Strait.												
8	Birch Bay.....	48 55	122 45	8 11	Port Townsend...	161	+1 09	+1 26	-1.6	-2.0	1.1	
9	Drayton Harbor, Semlamoo Bay....	49 00	122 46	8 11	Port Townsend...	161	+1 12	+1 38	-1.1	-1.9	1.1	
San Juan Channel.												
10	Cattle Point, San Juan Island.....	48 27	122 58	8 12	Port Townsend...	161	-0 18	-0 09	-2.2	-2.2	0.8	
11	Green Point, Spieden Island.....	48 38	123 07	8 12	Port Townsend...	161	-0 03	+0 17	-1.6	-2.0	1.1	
Haro Strait.												
12	Kanaka Bay, San Juan Island.....	48 29	123 04	8 12	Port Townsend...	161	-0 16	-0 01	-2.0	-2.2	1.1	
13	Roche Harbor, San Juan Island.....	48 37	123 08	8 13	Port Townsend...	161	-0 10	+0 06	-1.8	-2.0	1.1	
14	Turn Point, Stuart Island.....	48 41	123 14	8 13	Port Townsend...	161	+0 06	+0 26	-1.4	-2.0	1.1	
15	Alden Point, Potos Island.....	48 47	122 58	8 12	Port Townsend...	161	+0 31	+0 52	-1.4	-2.0	1.1	
BRITISH COLUMBIA.												
16	*Esquimalt Harbor, Vancouver I....	48 26	123 27	8 14	Port Townsend...	161	+6 50	-0 36	-5.2	-2.5	0.7	
17	*Victoria Harbor, Vancouver Island.	48 25	123 23	8 14	Port Townsend...	161	+6 39	-0 32	-5.2	-3.1	0.7	
18	*Discovery Island Light.....	48 25	123 13	8 13	Port Townsend...	161	+8 32	-0 34	-5.5	-2.5	0.6	
19	Active Pass, Mayne Island.....	48 52	123 18	8 13	Port Townsend...	161	+1 20	+1 45	-0.6	-1.4	1.1	
20	Cowichan Harbor, Vancouver I....	48 46	123 37	8 14	Port Townsend...	161	+1 20	+1 46	-0.6	-1.4	1.1	
21	Maple Bay, Vancouver Island.....	48 50	123 36	8 14	Port Townsend...	161	+1 26	+1 53	-0.6	-1.4	1.1	
22	Oyster Harbor, Vancouver Island....	49 00	123 48	8 15	Port Townsend...	161	+1 47	+2 17	0.0	-1.2	1.2	
23	North Sand Heads Light, Fraser R....	49 05	123 16	8 13	Port Townsend...	161	+1 26	+1 53	-0.7	-1.5	1.1	
24	Atkinson Point Lt., Burrard Inlet....	49 20	123 16	8 13	Port Townsend...	161	+1 35	+2 05	+0.2	-1.4	1.1	
25	Vancouver, Burrard Inlet.....	49 17	123 11	8 13	Port Townsend...	161	+1 43	+2 31	+0.3	-1.3	1.3	
26	Port Graves, Gambier I., Howe Sd....	49 29	123 24	8 14	Port Townsend...	161	+1 54	+2 29	+1.4	-1.2	1.1	
27	Watts Point, Howe Sound.....	49 41	123 13	8 13	Port Townsend...	161	+2 05	+2 50	+2.2	-1.0	1.6	
28	Nanaimo Harbor, Vancouver I.....	49 10	123 57	8 16	Port Townsend...	161	+0 58	+1 38	+2.2	-1.0	1.1	
29	Nanowas Harbor, Vancouver I.....	49 16	124 10	8 17	Port Townsend...	161	+1 11	+1 51	+2.6	-1.0	1.1	
30	Pender Harbor, Malaspina Strait....	49 38	124 03	8 16	Port Townsend...	161	+2 18	+1 48	+2.4	-1.0	1.1	
31	Port Augusta, Vancouver Island.....	49 37	124 51	8 19	Port Townsend...	161	+1 06	+1 36	+3.0	-1.0	1.1	
32	Baker Passage, Hernando Island.....	50 01	124 57	8 20	Port Townsend...	161	+2 02	+2 37	+3.6	-0.8	1.1	
33	Surge Narrows, Read Island.....	50 16	125 07	8 20	Port Townsend...	161	+2 05	+2 37	+4.2	-0.8	1.1	
34	Rendezvous Islands.....	50 17	125 05	8 20	Port Townsend...	161	+3 02	+2 02	+4.2	-0.8	1.1	
35	Stuart Island, Bute Inlet.....	50 23	125 09	8 21	Port Townsend...	161	+2 02	+2 51	+4.2	-0.8	1.1	
36	Waddington Harbor, Bute Inlet.....	50 05	124 52	8 19	Port Townsend...	161	+3 16	+4 11	+4.2	-0.8	1.1	
37	Gowlland Har., Discovery Passage....	50 05	125 16	8 21	Port Townsend...	161	+1 08	+0 53	-0.2	-1.1	1.2	
38	SEYMOUR NARROWS, Discovery P....	50 08	125 23	8 22	Port Townsend...	161	-0 57	-0 30	+0.6	-1.0	1.1	
39	Cameleon Harbor, Nodales Chan....	50 20	125 20	8 21	Sitka.....	165	+3 03	+2 21	+4.1	+0.3	1.1	
40	Knox Bay, Thurlow Island.....	50 24	125 39	8 23	Sitka.....	165	+3 55	+4 03	+5.2	+0.4	1.0	
41	Beaver Creek, Loughboro Inlet.....	50 31	125 38	8 23	Sitka.....	165	+3 45	+3 51	+3.7	+0.3	1.0	
42	Forward Harbor.....	50 29	125 47	8 23	Sitka.....	165	+3 15	+3 23	+4.2	+0.4	1.1	
43	Topaze Harbor.....	50 32	125 48	8 23	Sitka.....	165	+3 15	+3 23	+4.2	+0.4	1.1	
44	Port Neville.....	50 31	126 04	8 24	Sitka.....	165	+2 46	+2 51	+5.2	+0.4	1.0	
45	Port Harvey, Cull Creek.....	50 34	126 17	8 25	Sitka.....	165	+2 12	+2 15	+3.7	+0.3	1.0	
46	Sergeant Passage.....	50 42	126 11	8 25	Sitka.....	165	+2 02	+2 05	+3.3	+0.3	1.1	
47	Farewell Harbor, Blackfish Sd.....	50 36	126 42	8 27	Sitka.....	165	+1 34	+1 36	+4.6	+0.4	1.0	
48	Dusky Cove, Bonwick Island.....	50 42	126 40	8 27	Sitka.....	165	+1 27	+1 29	+4.2	+0.4	1.0	
49	Sunday Harbor, Crib Island.....	50 44	126 42	8 27	Sitka.....	165	+1 19	+1 20	+4.2	+0.4	1.0	
50	Cullen Harbor, Fife Sound.....	50 46	126 45	8 27	Sitka.....	165	+1 19	+1 20	+4.2	+0.4	1.1	

* As the tide is chiefly diurnal at these stations, the differences should be applied to only the higher high and lower low water at Port Townsend.

† The time of slack water at Seymour Narrows is given in Table 9 of this volume.

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWL.	LWL.	HHWL.	LLWL.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	4 50	10 50	6 31a	10 44b	5.6	6.7	4.4	10.3	1.1	8.2	.....	8.2	5.6	6.4	24.0
2	4 30	10 40	6 14a	10 34b	5.4	6.5	4.2	10.0	1.1	8.1	.....	8.1	5.5	6.3	24.0
3	4 35	10 30	6 19a	10 24b	5.3	6.4	4.1	9.9	1.1	8.0	.....	8.0	5.4	6.3	24.0
4	4 45	10 28	6 30a	10 22b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	5.3	6.2	24.0
5	4 47	10 30	6 32a	10 24b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	5.3	6.2	24.0
6	4 50	10 33	6 35a	10 27b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	5.3	6.2	24.0
7	4 53	10 45	6 37a	10 39b	5.3	6.4	4.1	9.9	1.1	8.0	.....	8.0	5.4	6.3	24.0
8	4 56	10 58	6 37b	10 52b	5.6	6.7	4.4	10.3	1.1	8.2	.....	8.2	5.6	6.5	24.0
9	4 59	11 10	6 37b	11 04b	5.9	7.1	4.6	10.7	1.1	8.4	.....	8.4	5.9	6.8	24.0
10	3 28	9 22	5 16b	9 15b	5.0	6.0	3.9	9.4	1.0	7.8	.....	7.8	5.2	6.0	24.0
11	3 43	9 48	5 26b	9 42b	5.5	6.6	4.3	10.1	1.1	8.1	.....	8.2	5.6	6.4	24.0
12	3 30	9 30	5 15b	9 24b	5.2	6.2	4.1	9.7	1.0	7.9	.....	7.9	5.3	6.2	24.0
13	3 35	9 36	5 19b	9 30b	5.4	6.5	4.2	10.0	1.1	8.1	.....	8.1	5.5	6.3	24.0
14	3 51	9 56	5 32b	9 50b	5.7	6.8	4.5	10.4	1.1	8.3	.....	8.3	5.7	6.6	24.0
15	4 17	10 23	5 58b	10 17b	5.7	6.8	4.5	10.4	1.1	8.3	.....	8.3	5.7	6.6	24.0
16	[2 00]	[8 14]	0 01b	8 46b	[2.7]	[3.4]	[2.0]	6.8	.....	.....	.....	6.8	3.6	4.6	24.5
17	[2 17]	[8 31]	0 10b	8 50b	[2.6]	[3.2]	[1.9]	7.4	.....	.....	9 18	6.7	3.3	4.5	24.5
18	[2 27]	[8 41]	1 44b	8 49b	[2.4]	[3.0]	[1.8]	6.5	.....	.....	.....	6.6	3.4	4.4	24.0
19	5 05	11 15	6 43b	11 09b	5.9	7.0	4.6	10.7	1.1	8.0	.....	8.0	5.7	6.7	24.0
20	5 04	11 15	6 42b	11 09b	5.9	7.0	4.6	10.7	1.1	8.0	.....	8.0	5.7	6.7	24.5
21	5 10	11 22	6 48b	11 16b	5.9	7.0	4.6	10.7	1.1	8.0	.....	8.0	5.7	6.7	24.5
22	5 30	11 45	7 05b	11 39b	6.4	7.6	5.0	11.4	1.2	8.4	.....	8.4	6.1	7.1	25.0
23	5 11	11 23	6 45b	11 15b	6.0	7.0	4.4	10.4	1.2	7.5	.....	7.6	5.6	6.9	25.0
24	5 20	11 35	6 49b	11 28b	6.7	7.8	4.9	11.3	1.2	7.9	.....	8.0	6.1	7.2	25.0
25	5 28	12 01	6 56b	11 53b	6.8	8.2	5.0	11.9	1.1	8.2	12 00	8.3	6.2	7.3	25.0
26	5 38	11 58	7 01b	11 51b	7.7	9.0	5.6	12.6	1.3	8.5	.....	8.6	6.8	8.0	25.5
27	5 50	12 20	7 09b	12 14b	8.4	9.8	6.1	13.5	1.3	8.9	.....	9.0	7.3	8.6	25.5
28	4 40	11 05	5 59b	10 59b	8.4	9.8	6.1	13.5	1.3	8.9	.....	9.0	7.3	8.6	25.5
29	4 52	11 18	6 10b	11 12b	8.7	10.2	6.4	13.9	1.4	9.0	.....	9.1	7.5	8.8	25.5
30	5 00	11 15	6 18b	11 00b	8.6	10.1	6.3	13.8	1.4	9.0	.....	9.1	7.4	8.7	25.5
31	4 45	11 00	6 00b	10 54b	9.1	10.6	6.6	14.4	1.4	9.2	.....	9.3	7.7	9.0	25.5
32	5 40	12 00	6 54b	11 52b	9.6	11.2	7.0	15.0	1.4	9.5	.....	9.6	8.1	9.5	26.0
33	5 45	12 00	7 00b	11 54b	10.1	11.8	7.4	15.7	1.5	9.7	.....	9.8	8.4	9.8	26.0
34	6 50	1 00	8 10b	1 03a	10.1	11.8	7.4	15.7	1.5	9.7	.....	9.8	8.4	9.8	26.0
35	5 42	12 13	6 54b	12 07b	10.1	11.8	7.4	15.7	1.5	9.7	.....	9.8	8.4	9.8	26.0
36	6 55	1 10	8 07b	1 04a	10.1	11.8	7.4	15.7	1.5	9.7	.....	9.8	8.4	9.8	26.0
37	4 45	10 15	6 22b	11 09b	6.1	7.2	4.8	10.9	1.1	8.5	.....	8.6	6.0	6.9	26.0
38	2 39	8 05	1 14b	8 26b	6.8	8.0	5.5	12.3	2.5	8.9	9 43	9.3	6.5	7.4	26.0
39	2 50	8 20	6 40b	8 32b	11.4	15.7	8.6	15.8	1.8	5.3	.....	5.9	7.6	7.5	26.5
40	3 40	10 00	3 11b	10 11b	12.5	15.7	7.7	15.9	1.9	5.5	.....	6.0	8.2	8.0	26.5
41	3 30	9 48	3 00b	10 00b	11.0	14.1	7.4	14.4	1.9	5.4	.....	5.9	7.4	7.7	26.5
42	3 00	9 20	2 31b	9 31b	11.5	14.7	7.7	14.9	1.9	5.5	.....	6.0	7.7	8.0	26.5
43	3 00	9 20	2 31b	9 31b	11.5	14.7	7.7	14.9	1.9	5.5	.....	6.0	7.7	8.0	26.5
44	2 30	8 47	2 02b	8 58b	12.5	16.0	8.3	15.9	2.0	6.7	.....	6.3	8.2	8.6	26.5
45	1 55	8 10	1 25b	8 22b	11.0	14.1	7.4	14.4	1.9	5.4	.....	5.9	7.4	7.7	26.5
46	1 45	8 00	1 14b	8 12b	10.6	13.6	7.1	13.9	1.8	5.3	.....	5.8	7.2	7.5	26.5
47	1 15	7 29	0 46b	7 40b	11.9	15.2	8.0	15.4	2.0	6.6	.....	6.1	7.9	8.2	26.5
48	1 08	7 22	0 39b	7 33b	11.5	14.7	7.7	14.9	1.9	5.5	.....	6.0	7.7	8.0	26.5
49	1 00	7 13	0 31b	7 24b	11.5	14.7	7.7	14.9	1.9	5.5	.....	6.0	7.7	8.0	26.5
50	1 00	7 13	0 31b	7 24b	11.5	14.7	7.7	14.9	1.9	5.5	.....	6.0	7.7	8.0	26.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (WEST COAST)—Continued.											
BRITISH COLUMBIA—continued.		North.	West.				Time meridian, 120° W.		Mean Lower Low Water.		
		° ' "	° ' "	h. m.			h. m.	h. m.	fath.	fath.	
1	Deep Harbor, Fife Sound.....	50 48	126 35	8 26	Sitka	165	+1 38	+1 39	+3.7	-0.3	1.2
2	Tracey Harbor, Broughton Island..	50 51	126 53	8 28	Sitka	165	+1 20	+1 21	+3.3	+0.3	1.5
3	Cypress Harbor, Broughton Island..	50 50	126 41	8 27	Sitka	165	+1 49	+1 50	+2.9	+0.3	1.3
4	Beaver Cove, Vancouver Island....	50 33	126 52	8 27	Sitka	165	+1 29	+1 30	+2.5	+0.3	1.2
5	Alert Bay, Cormorant Island.....	50 35	126 57	8 28	Sitka	165	+1 15	+1 16	+2.5	+0.3	1.2
6	Nimpkish River, Vancouver Island..	50 34	126 50	8 28	Sitka	165	+1 20	+1 21	+1.9	+0.1	1.2
7	Beaver Harbor, Vancouver Island..	50 43	127 25	8 30	Sitka	165	+0 52	+0 52	+1.5	+0.1	1.0
8	Blunden Harbor	50 54	127 19	8 29	Sitka	165	+0 51	+0 51	+1.5	+0.1	1.0
9	Port Alexander, Galiano Island....	50 51	127 40	8 31	Sitka	165	+0 55	+0 55	+1.5	+0.1	1.0
10	Bull Harbor, Hope Island.....	50 55	127 56	8 32	Sitka	165	+0 34	+0 34	+0.7	+0.1	1.0
Vancouver Island, southwest coast.											
11	Race Rocks Light, Fuca Strait	48 18	123 32	8 14	Port Townsend...	161	-1 59	-1 51	-1.9	-1.5	0.9
12	Sooke Inlet, Fuca Strait.....	48 21	123 43	8 15	Port Townsend...	161	-2 16	-1 59	-1.6	-1.4	0.9
13	Jordan River, Fuca Strait.....	48 25	124 03	8 16	Port Townsend...	161	-2 32	-2 12	-1.1	-1.3	1.0
14	Port San Juan, Fuca Strait.....	48 33	124 26	8 18	Astoria	157	+0 33	+0 16	-0.4	0.0	0.5
15	Carmanah Point Light.....	48 37	124 46	8 19	Astoria	157	+0 09	-0 10	-0.4	0.0	0.5
16	Cape Beale Light, Barclay Sound..	48 48	125 14	8 21	Astoria	157	-0 14	-0 21	+1.8	-0.2	1.5
17	Stamp Harbor	49 16	124 51	8 19	Astoria	157	+0 34	+0 42	+3.9	-0.3	1.5
18	Clayoquot Sound.....	49 14	126 00	8 24	Astoria	157	-0 16	-0 25	+1.8	-0.2	1.2
19	Hesquiat Harbor	49 25	126 28	8 26	Astoria	157	-0 24	-0 35	+2.0	+0.2	1.2
20	Nootka Sound.....	49 36	126 38	8 27	Astoria	157	-0 23	-0 35	+1.6	+0.2	1.5
21	Esperanza Inlet	49 50	126 58	8 28	Astoria	157	-0 32	-0 44	+1.6	+0.2	1.2
22	Kyuquot Sound	50 00	127 12	8 29	Astoria	157	-0 36	-0 50	+1.2	+0.2	1.1
23	Ou-Ou-Kinsh Inlet	50 08	127 34	8 30	Astoria	157	-0 38	-0 53	+1.2	+0.2	1.1
24	Klaakino Inlet	50 18	127 52	8 31	Astoria	157	-0 48	-1 03	+0.6	0.0	1.0
25	Quatsino Sound Entrance.....	50 28	127 56	8 32	Astoria	157	-0 47	-1 02	+0.6	0.0	1.0
Smith Inlet.							Time meridian, 135° W.				
26	Takush Harbor.....	51 17	127 39	8 31	Sitka	165	-0 12	-0 12	+1.7	+0.1	1.1
Fitzhugh Sound.											
27	Schooner Retreat.....	51 28	127 45	8 31	Sitka	165	-0 07	-0 07	+1.5	+0.1	1.3
28	Safety Cove	51 32	127 56	8 32	Sitka	165	-0 01	-0 01	+2.0	+0.2	1.3
29	Goldstream Harbor.....	51 43	128 01	8 32	Sitka	165	-0 11	-0 11	+2.5	+0.3	1.2
30	Namu Harbor	51 52	127 52	8 31	Sitka	165	+0 02	+0 02	+2.2	+0.2	1.5
31	Welcome Harbor, Hakai Strait.....	51 41	128 08	8 33	Sitka	165	-0 15	-0 15	+1.5	+0.1	1.6
Fisher Channel.											
32	Port John	52 00	127 53	8 32	Sitka	165	+0 34	+0 38	+3.1	+0.3	1.3
Campbell Island.											
33	McLaughlin Bay	52 09	128 10	8 33	Sitka	165	+0 15	+0 19	+1.7	+0.1	1.1
34	Kynumt Harbor	52 12	128 13	8 33	Sitka	165	+0 10	+0 12	+2.2	+0.2	1.5
Milbank Sound.											
35	Port Blakeney.....	52 19	128 23	8 34	Sitka	165	-0 14	-0 15	+1.5	+0.1	1.1
Finlayson Channel.											
36	Nowish Cove	52 31	128 27	8 34	Sitka	165	+0 06	+0 05	+1.8	+0.3	1.2
37	Klemtoo Passage	52 34	128 32	8 34	Sitka	165	+0 09	+0 08	+1.8	+0.3	1.3
Queen Charlotte Islands.											
38	Port Kuper	52 57	132 16	8 49	Sitka	165	-0 18	-0 18	+1.5	+0.1	1.5
39	Skidegate Inlet.....	53 13	131 59	8 48	Sitka	165	-0 11	-0 11	+2.5	+0.3	1.2
Principe Channel.											
40	Port Stephens	53 21	129 41	8 39	Sitka	165	-0 07	-0 08	+3.7	+0.3	1.4
41	Port Canaveral	53 34	130 09	8 41	Sitka	165	-0 02	-0 03	+3.7	+0.3	1.4
Wright Sound.											
42	Holmes Bay	53 16	129 06	8 36	Sitka	165	-0 12	-0 13	+2.5	+0.3	1.2
43	Coghlan Anchorage.....	53 23	129 17	8 37	Sitka	165	-0 11	-0 12	+3.7	+0.3	1.4
Greenville Channel.											
44	Lowe Inlet	53 33	129 36	8 38	Sitka	165	0 00	0 00	+4.7	+0.5	1.5
45	Klewnugget Inlet.....	53 39	129 45	8 39	Sitka	165	+0 11	+0 12	+4.7	+0.5	1.5

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	1 20	7 33	0 50b	7 45b	11.0	14.1	7.4	14.3	1.9	5.4	.....	5.9	7.4	7.8	27.0
2	1 00	7 13	0 29b	7 25b	10.6	13.6	7.1	13.8	1.9	5.3	.....	5.8	7.2	7.6	27.0
3	1 30	7 43	0 59b	7 55b	10.3	13.2	6.9	13.5	1.8	5.2	.....	5.7	7.0	7.4	27.0
4	1 10	7 23	0 39b	7 35b	10.0	12.8	6.7	13.1	1.8	5.1	.....	5.6	6.8	7.2	26.5
5	0 55	7 08	0 24b	7 20b	10.0	12.8	6.7	13.1	1.8	5.1	.....	5.6	6.8	7.2	26.5
6	1 00	7 13	0 27b	7 26b	9.4	12.1	6.3	12.5	1.8	5.0	.....	5.5	6.4	6.9	26.5
7	0 30	6 42	0 03b	6 45b	9.0	11.5	6.0	12.0	1.7	4.9	.....	5.3	6.2	6.6	26.5
8	0 30	6 42	0 03b	6 45b	9.0	11.5	6.0	12.0	1.7	4.9	.....	5.3	6.2	6.6	27.0
9	0 32	6 44	0 01b	6 47b	9.1	11.6	6.1	12.1	1.7	4.9	.....	5.4	6.2	6.7	27.0
10	0 10	6 22	0 025b	6 36b	8.4	10.7	5.6	11.3	1.7	4.7	.....	5.2	5.8	6.2	27.0
11	1 45	7 38	3 34b	7 32b	4.8	5.8	3.7	9.1	1.0	7.6	.....	7.6	5.0	5.8	25.0
12	1 27	7 29	3 15b	7 23b	5.0	6.0	3.9	9.4	1.0	7.8	.....	7.8	5.2	6.0	25.0
13	1 10	7 15	2 54b	7 09b	5.4	6.5	4.2	10.0	1.1	8.1	.....	8.1	5.5	6.3	26.0
14	0 45	6 55	0 10b	7 12b	6.0	7.4	4.3	8.5	1.9	3.6	.....	4.1	4.3	4.6	25.0
15	0 20	6 28	0 015b	6 46b	6.0	7.4	4.3	8.5	1.9	3.6	.....	4.1	4.3	4.6	26.0
16	12 20	6 15	11 49a	6 30b	8.0	9.9	5.7	10.9	2.2	4.2	.....	4.7	5.5	5.9	25.0
17	0 45	7 20	0 17b	7 33b	10.0	12.4	7.1	13.2	2.4	4.6	.....	5.3	6.6	7.1	25.5
18	12 15	6 08	11 44a	6 23b	8.1	10.0	5.8	11.0	2.2	4.2	.....	4.8	5.5	5.9	25.5
19	12 05	5 56	11 35a	6 10b	8.3	10.3	5.9	11.2	2.2	4.2	.....	4.8	5.6	6.1	25.5
20	12 05	5 55	11 34a	6 10b	7.9	9.8	5.6	10.7	2.1	4.1	.....	4.7	5.4	5.9	26.0
21	11 55	5 45	11 24a	6 00b	7.8	9.7	5.5	10.6	2.1	4.1	.....	4.7	5.4	5.7	26.0
22	11 50	5 38	11 18a	5 53b	7.5	9.3	5.3	10.2	2.1	4.0	.....	4.6	5.2	5.6	26.0
23	11 47	5 34	11 15a	5 49b	7.5	9.3	5.3	10.2	2.1	4.0	.....	4.6	5.2	5.6	26.0
24	11 35	5 22	11 02a	5 38b	6.9	8.6	4.9	9.6	2.0	3.9	.....	4.4	4.8	5.2	26.5
25	11 35	5 22	11 02a	5 38b	6.9	8.6	4.9	9.6	2.0	3.9	.....	4.4	4.8	5.2	26.5
26	0 25	6 37	0 08b	6 50b	9.2	11.8	6.2	12.2	1.7	4.9	.....	5.4	6.3	6.7	27.0
27	0 30	6 42	0 03b	6 55b	9.0	11.5	6.0	12.0	1.7	4.9	.....	5.3	6.2	6.6	27.0
28	0 35	6 47	0 03b	7 00b	9.5	12.2	6.4	12.6	1.8	5.0	.....	5.5	6.5	6.9	27.0
29	0 25	6 37	0 06b	6 49b	10.0	12.8	6.7	13.1	1.8	5.1	.....	5.6	6.8	7.2	27.5
30	0 39	6 51	0 07b	7 04b	9.7	12.4	6.5	12.8	1.8	5.1	.....	5.5	6.6	7.0	27.5
31	0 20	6 32	0 013b	6 45b	9.0	11.5	6.0	12.0	1.7	4.9	.....	5.3	6.2	6.6	27.5
32	1 10	7 26	0 39b	7 38b	10.5	13.4	7.0	13.7	1.9	5.3	.....	5.8	7.1	7.5	27.5
33	0 50	7 06	0 17b	7 19b	9.2	11.8	6.2	12.2	1.7	4.9	.....	5.4	6.3	6.7	27.5
34	0 45	6 59	0 13b	7 12b	9.7	12.4	6.5	12.8	1.8	5.1	.....	5.5	6.6	7.0	27.5
35	0 20	6 31	0 013b	6 44b	9.1	11.6	6.1	12.1	1.7	4.9	.....	5.4	6.2	6.7	27.5
36	0 40	6 52	0 08b	7 05b	9.3	11.9	6.2	12.3	1.7	5.0	.....	5.4	6.4	6.8	27.5
37	0 43	6 55	0 11b	7 08b	9.3	11.9	6.2	12.3	1.7	5.0	.....	5.4	6.4	6.8	27.5
38	0 00	6 12	0 03b	6 25b	9.0	11.5	6.1	12.0	1.7	4.9	.....	5.3	6.2	6.6	27.5
39	0 07	6 19	0 024b	6 31b	10.0	12.8	6.7	13.1	1.8	5.1	.....	5.6	6.8	7.2	27.5
40	0 22	6 33	0 08b	6 45b	11.0	14.1	7.4	14.3	1.9	5.4	.....	5.9	7.4	7.8	28.0
41	0 25	6 36	0 06b	6 48b	11.0	14.1	7.4	14.3	1.9	5.4	.....	5.9	7.4	7.8	28.0
42	0 20	6 31	0 011b	6 43b	10.0	12.8	6.7	13.1	1.8	5.1	.....	5.6	6.8	7.2	28.0
43	0 20	6 30	0 010b	6 42b	11.0	14.1	7.4	14.3	1.9	5.4	.....	5.9	7.4	7.8	28.0
44	0 30	6 42	0 01b	6 53b	12.0	15.4	8.0	15.4	2.0	5.6	.....	6.2	8.0	8.4	28.5
45	0 40	6 53	0 11b	7 04b	12.0	15.4	8.0	15.4	2.0	5.6	.....	6.2	8.0	8.4	28.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (WEST COAST)—Continued.												
BRITISH COLUMBIA—continued.												
Ogden Channel.		North.	West.				Time meridian, 135° W.		Mean Lower Low Water.			
1	Alpha Bay.....	53 52	130 18	h. m. 8 41	Sitka	165	h. m. -0 07	h. m. -0 09	feet. + 6.3	feet. +0.5	1.7	
Chatham Sound.												
2	Refuge Bay, Porcher Island.....	54 04	130 22	8 41	Sitka	165	-0 12	-0 14	+ 4.6	+0.4	1.3	
3	Qlawdzeit Anchorage.....	54 13	130 46	8 43	Sitka	165	-0 15	-0 17	+ 4.1	+0.3	1.3	
4	Metlakatla Bay.....	54 20	130 28	8 42	Sitka	165	-0 08	-0 10	+ 6.5	+0.5	1.7	
5	Port Simpson.....	54 34	130 27	8 42	Sitka	165	-0 12	-0 13	+ 6.3	+0.7	1.7	
BRITISH COLUMBIA AND ALASKA.												
Portland Canal, etc.												
6	Wales Point, Alaska.....	54 42	130 28	8 42	Sitka	165	-0 14	-0 16	+ 5.5	+0.5	1.6	
7	Winter Har., Pearse Canal, Alaska.....	54 49	130 27	8 42	Sitka	165	-0 08	-0 16	+ 5.9	+0.5	1.6	
8	Somerville Bay, B. C.....	54 47	130 13	8 41	Sitka	165	-0 10	-0 12	+ 6.1	+0.5	1.7	
9	Nass Bay, B. C.....	54 59	129 59	8 40	Sitka	165	+0 13	+0 10	+11.1	+0.9	2.2	
10	Observatory Inlet, B. C.....	55 06	129 58	8 40	Sitka	165	+0 16	+0 12	+11.1	+0.9	2.2	
11	Halibut Bay, Alaska.....	55 14	130 06	8 40	Sitka	165	+0 18	+0 14	+ 8.3	+0.7	1.9	
12	Fords Cove, B. C.....	55 37	130 06	8 40	Sitka	165	+0 21	+0 16	+ 6.9	-0.5	1.8	
ALASKA.												
Dixon Entrance.												
13	Haystack Island.....	54 43	130 37	8 42	Sitka	165	-0 15	-0 17	+ 5.7	+0.5	1.6	
14	Port Tongass, Tongass Island.....	54 46	130 41	8 43	Sitka	165	-0 17	-0 22	+ 5.9	+0.5	1.6	
15	Nakat Harbor.....	54 48	130 42	8 43	Sitka	165	-0 13	-0 22	+ 5.9	+0.5	1.6	
16	Cape Fox.....	54 46	130 51	8 43	Sitka	165	-0 18	-0 17	+ 5.7	+0.5	1.6	
17	Cape Chacon, Prince of Wales Id.....	54 42	132 01	8 48	Sitka	165	-0 15	-0 12	+ 3.7	+0.3	1.4	
18	Howkan, Kalgahnee Strait.....	54 49	132 49	8 51	Sitka	165	+0 09	+0 16	+ 4.7	+0.5	1.3	
19	Cape Muzon, Dall Island.....	54 40	132 41	8 51	Sitka	165	-0 14	-0 13	+ 3.5	+0.3	1.4	
Revillagigedo Channel.												
20	Morse Cove, Duke Island.....	54 55	131 15	8 45	Sitka	165	+0 04	+0 01	+ 5.9	-0.5	1.6	
21	Vixen Bay, Boca de Quadra.....	55 03	130 47	8 43	Sitka	165	+0 10	+0 04	+ 4.9	+0.5	1.3	
22	Custom House Cove, Mary Island.....	55 06	131 13	8 45	Sitka	165	-0 01	-0 13	+ 6.1	+0.6	1.7	
23	Hassler Harbor, Annette Island.....	55 13	131 26	8 46	Sitka	165	+0 04	-0 06	+ 6.3	+0.5	1.7	
24	Gnat Harbor, Carroll Inlet.....	55 23	131 20	8 45	Sitka	165	+0 12	-0 12	+ 4.8	+0.4	1.6	
25	Ward Cove, Tongass Narrows.....	55 24	131 44	8 47	Sitka	165	+0 08	+0 05	+ 8.5	+0.7	2.0	
26	Ketchikan, Tongass Narrows.....	55 21	131 39	8 47	Sitka	165	+0 05	+0 06	+ 5.7	+0.5	1.6	
Behm Canal.												
27	Shoalwater Pass.....	55 26	130 54	8 44	Sitka	165	+0 01	-0 09	+ 4.8	+0.4	1.5	
28	Burroughs Bay.....	55 02	131 06	8 44	Sitka	165	-0 05	-0 11	+ 5.3	-0.4	1.3	
29	Bell Arm, Bell Island.....	55 58	131 31	8 46	Sitka	165	-0 01	-0 05	+ 8.5	+0.7	2.0	
30	Convent Cove, Hassler Island.....	55 52	131 41	8 47	Sitka	165	-0 07	-0 08	+ 4.4	-0.4	1.3	
31	Yes Bay.....	55 56	131 50	8 47	Sitka	165	-0 06	-0 05	+ 5.4	-0.4	1.3	
32	Loring, Naha Bay.....	55 36	131 38	8 47	Sitka	165	-0 11	-0 12	+ 5.3	-0.4	1.3	
Clarence Strait.												
33	Cape Northumberland, Duke Id.....	54 51	131 22	8 46	Sitka	165	-0 15	-0 14	+ 4.4	+0.4	1.3	
34	Tamgas Harbor, Annette Island.....	55 04	131 33	8 46	Sitka	165	-0 13	-0 16	+ 6.1	+0.5	1.7	
35	Niblack Anchorage, Moira Sound.....	55 04	132 07	8 48	Sitka	165	-0 10	-0 13	+ 6.3	+0.5	1.7	
36	Metlakatla, Port Chester.....	55 08	131 34	8 46	Sitka	165	-0 08	-0 11	+ 6.3	+0.5	1.7	
37	Chasima Anch., Cholmondeley Id.....	55 16	132 08	8 48	Sitka	165	-0 02	-0 05	+ 6.7	+0.5	1.7	
38	Kasaan Bay Entrance.....	55 24	132 10	8 49	Sitka	165	+0 06	+0 05	+ 7.3	+0.7	1.8	
39	Kasaan Village, Skowl Arm.....	55 23	132 22	8 49	Sitka	165	+0 12	+0 11	+ 5.9	+0.7	1.8	
40	Karta Bay, Kasaan Bay.....	55 34	132 35	8 50	Sitka	165	+0 07	+0 06	+ 5.9	0.0	1.7	
41	Tolstoi Bay, Prince of Wales Island.....	55 39	132 25	8 50	Sitka	165	+0 11	+0 09	+ 6.1	+0.5	1.7	
42	Union Bay, Earnest Sound.....	55 45	132 12	8 49	Sitka	165	+0 12	+0 11	+ 5.5	+0.5	1.6	
43	Dewey Anchorage, Etolin Island.....	55 55	132 22	8 49	Sitka	165	+0 13	+0 12	+ 6.5	+0.5	1.7	
44	Ratz Harbor, Prince of Wales Island.....	55 53	132 36	8 50	Sitka	165	+0 13	+0 12	+ 6.1	+0.5	1.7	
45	Steamer Bay, Etolin Island.....	56 09	132 41	8 51	Sitka	165	+0 09	+0 08	+ 5.9	+0.5	1.6	
Sumner Strait.												
46	Port McArthur, Kuiu Island.....	56 04	134 07	8 56	Sitka	165	-0 04	-0 03	+ 0.7	+0.1	1.0	
47	Shakan, Prince of Wales Island.....	56 08	133 27	8 54	Sitka	165	+0 01	0 00	+ 1.9	+0.1	1.2	
48	Port Beauclerc, Kuiu Island.....	56 18	133 54	8 56	Sitka	165	0 00	-0 01	+ 3.7	+0.3	1.4	
49	Port Protection, Prince of Wales Id.....	56 19	133 36	8 54	Sitka	165	0 00	-0 02	+ 2.9	+0.4	1.3	
50	Red Bay, Prince of Wales Island.....	56 19	133 18	8 53	Sitka	165	+0 03	0 00	+ 4.9	+0.5	1.3	
51	Duncan Canal Entrance.....	56 32	133 05	8 52	Sitka	165	+0 08	+0 05	+ 5.3	+0.5	1.6	
52	St. John Harbor, Zarembo Island.....	56 26	132 57	8 52	Sitka	165	+0 07	+0 04	+ 5.7	+0.5	1.6	
53	Wrangell, Wrangell Island.....	56 28	132 22	8 49	Sitka	165	+0 12	+0 09	+ 6.7	+0.5	1.7	
54	Highfield Cannery.....	56 29	132 22	8 49	Sitka	165	+0 14	+0 11	+ 6.3	+0.5	1.7	
55	Stikine River Ent., Pt. Rothsay.....	56 35	132 22	8 49	Sitka	165	+0 25	+0 30	+ 4.1	+0.3	1.4	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	h. m.	h. m.	h. m.	h. m.	feet.	feet.	feet.	feet.	feet.	feet.	h. m.	feet.	feet.	feet.	East. °
1	0 20	6 30	-0 07b	6 41b	13.5	17.3	9.1	17.2	2.1	6.0	.....	6.5	8.8	9.3	28.5
2	0 15	6 25	-0 14b	6 36b	11.9	15.3	8.0	15.3	2.0	5.6	.....	6.1	7.9	8.4	28.5
3	0 10	6 20	-0 19b	6 31b	11.5	14.7	7.7	14.8	1.9	5.5	.....	6.0	7.6	8.1	29.0
4	0 18	6 28	-0 09b	6 39b	13.7	17.5	9.2	17.4	2.1	6.0	.....	6.6	8.9	9.4	29.0
5	0 14	6 25	-0 13b	6 36b	13.4	17.2	9.0	17.0	2.1	5.9	.....	6.5	8.8	9.2	29.0
6	0 11	6 21	-0 17b	6 32b	12.8	16.4	8.6	16.3	2.0	5.8	.....	6.4	8.4	8.9	29.0
7	0 17	6 21	-0 10b	6 32b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	29.0
8	0 16	6 26	-0 11b	6 37b	13.2	16.9	8.8	16.8	2.1	5.9	.....	6.5	8.7	9.1	29.0
9	0 40	6 49	0 16b	6 58b	17.9	22.9	12.0	22.1	2.4	6.9	.....	7.5	11.4	12.0	29.5
10	0 43	6 51	0 19b	7 00b	17.9	22.9	12.0	22.1	2.4	6.9	.....	7.5	11.4	12.0	29.5
11	0 45	6 53	0 19b	7 03b	15.3	19.6	10.3	19.2	2.2	6.4	.....	7.0	9.9	10.4	29.5
12	0 48	6 55	0 21b	7 06b	14.0	17.9	9.4	17.7	2.1	6.1	.....	6.7	9.1	9.6	30.0
13	0 10	6 20	-0 18b	6 31b	12.9	16.5	8.6	16.5	2.0	5.9	.....	6.4	8.5	8.9	29.0
14	0 08	6 15	-0 19b	6 26b	13.1	16.8	8.8	16.7	2.1	5.9	.....	6.4	8.6	9.1	29.0
15	0 12	6 15	-0 15b	6 26b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	29.0
16	0 07	6 20	-0 21b	6 31b	12.9	16.5	8.6	16.5	2.0	5.9	.....	6.4	8.5	8.9	29.0
17	0 04	6 19	-0 26b	6 31b	11.1	14.2	7.4	14.4	1.9	5.4	.....	5.9	7.4	7.9	29.0
18	0 25	6 44	-0 04b	6 55b	12.0	15.4	8.0	15.4	2.0	5.6	.....	6.2	8.0	8.4	29.0
19	0 02	6 15	-0 29b	6 27b	10.8	13.8	7.2	14.1	1.9	5.4	.....	5.9	7.3	7.7	29.0
20	0 27	6 36	0 00b	6 47b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	29.0
21	0 35	6 41	0 06b	6 52b	12.2	15.6	8.2	15.7	2.0	5.7	.....	6.2	8.1	8.6	29.5
22	0 22	6 22	-0 05b	6 33b	13.2	16.9	8.8	16.8	2.1	5.9	.....	6.5	8.7	9.1	29.5
23	0 25	6 27	-0 02b	6 38b	13.4	17.2	9.0	17.0	2.1	6.0	.....	6.5	8.8	9.3	29.5
24	0 35	6 23	0 06b	6 44b	12.1	15.5	8.1	15.6	2.0	5.7	.....	6.2	8.0	8.5	29.5
25	0 28	6 37	0 03b	6 47b	15.6	20.0	10.5	19.5	2.3	6.4	.....	7.0	10.0	10.6	29.5
26	0 25	6 38	0 02b	6 38b	12.9	16.5	8.6	16.5	2.0	5.9	.....	6.4	8.9	9.3	29.5
27	0 25	6 27	-0 04b	6 38b	12.1	15.5	8.1	15.6	2.0	5.7	.....	6.2	8.0	8.5	29.5
28	0 19	6 25	0 01b	6 41b	13.4	16.6	9.2	17.4	2.3	5.6	.....	6.1	8.2	9.5	30.0
29	0 20	6 28	0 02b	6 30b	15.6	20.0	10.5	19.5	2.3	6.4	.....	7.0	10.0	10.6	30.0
30	0 13	6 24	-0 02b	6 26b	11.7	15.0	7.8	15.1	1.9	5.6	.....	6.1	7.8	8.2	30.0
1	0 15	6 27	-0 04b	6 29b	13.5	16.8	9.1	17.2	2.2	5.2	.....	5.6	8.2	9.3	30.0
2	0 10	6 20	-0 09b	6 22b	13.4	16.6	9.2	17.4	2.3	5.6	.....	6.1	8.2	9.5	30.0
3	0 06	6 19	-0 23b	6 30b	11.7	15.0	7.8	15.1	1.9	5.6	.....	6.1	7.8	8.2	29.0
4	0 08	6 17	-0 19b	6 28b	13.2	16.9	8.8	16.8	2.1	5.9	.....	6.5	8.7	9.1	29.5
5	0 09	6 18	-0 16b	6 29b	13.5	17.3	9.0	17.1	2.1	6.0	.....	6.5	8.8	9.4	29.5
6	0 13	6 22	-0 14b	6 33b	13.4	17.2	9.0	17.0	2.1	6.0	.....	6.5	8.8	9.3	29.5
7	0 17	6 26	-0 10b	6 37b	13.8	17.7	9.2	17.4	2.1	6.0	.....	6.6	9.0	9.5	29.5
8	0 25	6 35	-0 01b	6 45b	14.4	18.4	9.6	18.2	2.2	6.2	.....	6.7	9.4	9.9	29.5
9	0 30	6 41	0 03b	6 52b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	29.5
10	0 25	6 35	-0 01b	6 45b	13.6	17.3	9.0	18.0	2.1	5.9	.....	6.5	8.4	9.0	29.5
11	0 28	6 38	0 01b	6 49b	13.3	17.0	8.9	16.9	2.1	5.9	.....	6.5	8.7	9.1	29.5
12	0 30	6 41	0 02b	6 52b	12.8	16.4	8.6	16.3	2.0	5.8	.....	6.4	8.4	8.9	30.0
13	0 31	6 42	0 04b	6 53b	13.7	17.5	9.2	17.3	2.1	6.0	.....	6.6	8.9	9.4	30.0
14	0 30	6 41	0 02b	6 52b	13.2	16.9	8.8	16.8	2.1	5.9	.....	6.5	8.7	9.1	30.0
15	0 25	6 36	-0 02b	6 47b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	30.0
16	0 07	6 20	-0 28b	6 34b	8.4	10.8	5.6	11.3	1.7	4.7	.....	5.2	5.8	6.2	29.5
17	0 12	6 23	-0 21b	6 36b	9.4	12.0	6.3	12.4	1.7	5.0	.....	5.5	6.4	6.9	30.0
18	0 11	6 22	-0 19b	6 34b	10.9	14.0	7.3	14.2	1.9	5.4	.....	5.9	7.3	7.7	30.0
19	0 13	6 23	-0 14b	6 35b	10.4	13.3	7.0	13.6	1.8	5.2	.....	5.7	7.0	7.2	30.0
20	0 17	6 26	-0 12b	6 37b	12.2	15.6	8.2	15.7	2.0	5.7	.....	6.2	8.1	8.6	30.0
21	0 23	6 32	-0 05b	6 43b	12.5	16.0	8.4	16.0	2.0	5.8	.....	6.3	8.3	8.7	30.0
22	0 31	6 41	0 04b	6 52b	12.9	16.5	8.6	16.5	2.0	5.9	.....	6.4	8.5	8.9	30.0
23	0 30	6 39	0 03b	6 50b	13.8	17.7	9.2	17.4	2.1	6.0	.....	6.6	9.0	9.5	30.0
24	0 32	6 41	0 05b	6 52b	13.5	17.3	9.0	17.1	2.1	6.0	.....	6.5	8.8	9.4	30.0
25	0 45	7 00	0 15b	7 12b	11.4	14.6	7.6	14.7	1.9	5.5	.....	6.0	7.6	8.1	30.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
NORTH AMERICA (WEST COAST)—Continued.												
ALASKA—continued.												
Wrangell Strait.		North.	West.				Time meridian, 135° W.		5 feet below Mean Lower Low Water.			
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.		
1	Point Lockwood, Woewodski Island	56 33	132 57	8 52	Sitka	165	+0 10	+0 08	+ 9.0	+3.6	1.7	
2	Finger Point, Lindenberg Penin...	56 41	132 56	8 52	Sitka	165	+0 35	+0 35	+10.4	+3.6	1.7	
3	Prolewy Point, Lindenberg Penin...	56 50	132 56	8 52	Sitka	165	+0 15	+0 13	+ 9.5	+3.5	1.7	
Keku Strait.												
4	Seclusion Harbor, Kuiu Island	56 33	133 52	8 55	Sitka	165	+0 05	-0 06	+ 2.3	+0.3	1.7	
5	Port Camden, Kuiu Island	56 44	133 55	8 56	Sitka	165	+0 06	-0 20	+ 3.7	+0.3	1.7	
6	Hamilton Bay, Kupreanof Island	56 55	133 50	8 55	Sitka	165	+0 03	-0 22	+ 3.3	+0.3	1.7	
Frederick Sound.												
7	Ideal Cove, Mitkof Island	56 40	132 38	8 51	Sitka	165	+0 27	+0 03	+ 5.1	+0.5	1.7	
8	Brown Cove	56 53	132 48	8 51	Sitka	165	+0 12	+0 10	+ 6.7	+0.5	1.7	
9	Thomas Bay	57 00	132 52	8 51	Sitka	165	+0 10	+0 07	+ 5.3	+0.5	1.7	
10	Portage Bay, Kupreanof Island	57 00	133 19	8 53	Sitka	165	+0 07	+0 04	+ 5.5	+0.5	1.7	
11	Cleveland Passage, Whitney I	57 13	133 30	8 54	Sitka	165	+0 05	+0 03	+ 5.5	+0.5	1.7	
12	Fybus Bay, Admiralty Island	57 19	134 00	8 56	Sitka	165	+0 06	+0 05	+ 4.9	+0.5	1.7	
13	Eliza Harbor, Liesnoi Island	57 10	134 17	8 57	Sitka	165	+0 04	+0 03	+ 4.5	+0.3	1.7	
14	Saginaw Bay, Kuiu Island	56 55	134 18	8 57	Sitka	165	+0 03	+0 02	+ 4.0	+0.4	1.7	
Stephens Passage.												
15	Port Houghton, Robert Islands	57 18	133 28	8 54	Sitka	165	+0 06	+0 03	+ 5.3	+0.5	1.7	
16	Hobart Bay, Entrance Island	57 25	133 26	8 54	Sitka	165	+0 07	+0 04	+ 5.3	+0.5	1.7	
17	Snug Cove, Gambler Bay	57 26	133 57	8 56	Sitka	16	+0 10	+0 07	+ 5.5	+0.5	1.7	
18	Windham Bay	57 33	133 30	8 54	Sitka	165	+0 09	+0 06	+ 5.3	+0.5	1.7	
19	Mole Harbor, Seymour Canal	57 40	134 08	8 57	Sitka	165	+0 15	+0 11	+ 5.5	+0.5	1.7	
20	Windfall Harbor, Seymour Canal	57 52	134 16	8 57	Sitka	165	+0 40	+0 35	+ 7.1	+0.5	1.7	
21	Holkham Bay, Harbor Island	57 46	133 37	8 54	Sitka	165	+0 11	+0 07	+ 5.3	+0.5	1.7	
22	Port Snettisham, Point Styleman	57 58	133 53	8 56	Sitka	165	+0 15	+0 11	+ 5.9	+0.5	1.7	
23	Taku Harbor	58 04	134 00	8 56	Sitka	165	+0 16	+0 12	+ 6.7	+0.5	1.7	
24	Taku Inlet, Greeley Point	58 13	134 05	8 56	Sitka	165	+0 19	+0 15	+ 6.9	+0.5	1.7	
25	Juneau, Gastineau Channel	58 18	134 24	8 58	Sitka	165	+0 36	+0 35	+ 7.4	+0.6	1.7	
26	Fritz Cove, Douglas Island	58 19	134 36	8 58	Sitka	165	+0 16	+0 17	+ 5.3	+0.5	1.7	
Lynn Canal.												
27	Funter Bay, Mansfield Peninsula	58 15	134 53	9 00	Sitka	165	+0 10	+0 13	+ 5.9	+0.5	1.7	
28	Barlow Cove, Mansfield Peninsula	58 20	134 53	9 00	Sitka	165	+0 13	+0 15	+ 6.1	+0.5	1.7	
29	William Henry Bay	58 43	135 14	9 01	Sitka	165	+0 18	+0 12	+ 5.3	+0.5	1.7	
30	Pyramid Harbor, Chilkat Inlet	59 11	135 28	9 02	Sitka	165	+0 23	+0 14	+ 5.7	+0.5	1.7	
31	Portage Cove, Chilkoot Inlet	59 14	135 26	9 02	Sitka	165	+0 25	+0 15	+ 7.5	+0.7	1.7	
32	Skagway	59 27	135 18	9 01	Sitka	165	+0 35	+0 25	+ 8.0	+0.4	1.7	
Chatham Strait.												
33	Port Conception, Baranof Island	56 16	134 31	8 58	Sitka	165	-0 03	-0 02	+ 0.9	+0.1	1.7	
34	Security Bay, Kuiu Island	56 51	134 21	8 57	Sitka	165	+0 02	0 00	+ 3.8	+0.4	1.7	
35	Whitewater Bay, Admiralty Island	57 11	134 31	8 58	Sitka	165	+0 07	+0 04	+ 4.1	+0.5	1.7	
36	Killbuck, Kootznahoo Roads	57 28	134 34	8 58	Sitka	165	+0 10	+0 06	+ 4.3	+0.5	1.7	
37	Favorite Bay, Kootznahoo Inlet	57 29	134 37	8 58	Sitka	165	+0 37	+0 33	+ 3.3	+0.3	1.7	
38	Mitchell Bay, Kootznahoo Inlet	57 31	134 29	8 58	Sitka	165	+1 49	+1 54	+ 1.4	+0.2	1.7	
39	Freshwater Bay, Chichagof Island	57 51	135 01	9 00	Sitka	165	+0 18	+0 18	+ 4.6	+0.4	1.7	
Cordova Bay.												
40	Kassa Inlet	54 57	132 30	8 50	Sitka	165	-0 12	-0 11	+ 1.9	-0.2	1.7	
41	Sulzer	55 17	132 40	8 51	Sitka	165	+0 10	+0 10	+ 2.7	0.0	1.7	
Outer coast.												
42	Port Alice, Davidson Inlet	55 48	133 36	8 54	Sitka	165	-0 11	-0 13	+ 0.9	-0.1	1.7	
43	Cape Ommaney, Baranof Island	56 10	134 32	8 58	Sitka	165	-0 04	-0 03	- 0.2	-0.1	0.8	
44	SITKA, Baranof Island	57 03	135 20	9 01	Sitka	165	0 00	0 00	0 0	0.0	1.0	
Peril Strait.												
45	Point Thatcher	57 23	134 51	8 59	Sitka	165	+0 11	+0 07	+ 4.2	+0.3	1.7	
46	Nismeni Cove	57 33	135 19	9 01	Sitka	165	+0 24	+0 22	+ 4.8	+0.5	1.7	
47	Pogibshi Anchorage	57 30	135 32	9 02	Sitka	165	+0 26	+0 26	+ 5.1	+0.4	1.7	
48	Bear Bay	57 25	135 29	9 02	Sitka	165	+0 17	+0 17	+ 2.6	+0.3	1.7	
49	SERGUS NARROWS*	57 24	135 34	9 03	Sitka	165	+0 20	+0 25	+ 3.0	+0.2	1.7	
50	Halcy Anchorage, Fish Bay	57 22	135 30	9 02	Sitka	165	+0 12	+0 04	+ 0.4	+0.1	1.7	
51	Whitestone Narrows, Neva Strait	57 15	135 30	9 02	Sitka	165	+0 06	0 00	+ 0.1	0.0	1.7	

*The time of slack water at Sergius Narrows is given in Table 10 of this volume.

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW intervals.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	0 25	6 35	—0 02b	6 46b	13.2	16.9	8.8	16.8	2.1	5.9	.....	6.5	11.7	9.1	30.0
2	0 50	7 02	—0 24b	7 12b	14.5	18.6	9.7	18.3	2.2	6.2	.....	6.8	12.4	9.9	30.5
3	0 30	6 40	—0 04b	6 51b	13.7	17.5	9.2	17.3	2.1	6.0	.....	6.6	11.9	9.4	30.5
4	0 17	6 18	—0 14b	6 31b	9.8	12.5	6.6	12.9	1.8	5.1	.....	5.6	6.7	7.1	30.0
5	0 16	6 03	—0 14b	6 15b	11.0	14.1	7.4	14.3	1.9	5.4	.....	5.9	7.4	7.8	30.5
6	0 15	6 02	—0 15b	6 14b	10.7	13.7	7.2	13.9	1.9	5.3	.....	5.8	7.2	7.7	30.5
7	0 43	6 31	—0 15b	6 42b	12.4	15.9	8.3	15.9	2.0	5.7	.....	6.3	8.2	8.7	30.5
8	0 28	6 38	—0 02b	6 49b	13.8	17.7	9.2	17.4	2.1	6.0	.....	6.6	9.0	9.5	30.5
9	0 26	6 35	—0 02b	6 46b	12.6	16.1	8.4	16.1	2.0	5.8	.....	6.3	8.3	8.8	30.5
10	0 21	6 30	—0 07b	6 41b	12.7	16.3	8.5	16.2	2.0	5.8	.....	6.3	8.4	8.9	30.5
11	0 18	6 28	—0 10b	6 39b	12.8	16.4	8.6	16.3	2.0	5.8	.....	6.4	8.4	8.9	31.0
12	0 17	6 27	—0 12b	6 38b	12.2	15.6	8.2	15.7	2.0	5.7	.....	6.2	8.1	8.6	31.0
13	0 14	6 24	—0 15b	6 35b	11.8	15.1	7.9	15.2	2.0	5.6	.....	6.1	7.8	8.3	30.5
14	0 13	6 23	—0 17b	6 35b	11.3	14.5	7.6	14.6	1.9	5.5	.....	6.0	7.6	8.0	30.5
15	0 19	6 28	—0 09b	6 39b	12.5	16.0	8.4	16.0	2.0	5.8	.....	6.3	8.3	8.7	31.0
16	0 20	6 29	—0 08b	6 40b	12.6	16.1	8.4	16.1	2.0	5.8	.....	6.3	8.3	8.8	31.0
17	0 21	6 30	—0 07b	6 41b	12.8	16.4	8.6	16.3	2.0	5.8	.....	6.4	8.4	8.9	31.0
18	0 22	6 31	—0 06b	6 42b	12.6	16.1	8.4	16.1	2.0	5.8	.....	6.3	8.3	8.8	31.0
19	0 25	6 33	—0 03b	6 44b	12.7	16.3	8.5	16.2	2.0	5.8	.....	6.3	8.4	8.9	31.0
20	0 50	6 57	—0 23b	7 07b	14.2	18.2	9.5	17.9	2.1	6.1	.....	6.7	9.2	9.7	31.0
21	0 24	6 32	—0 04b	6 43b	12.5	16.0	8.4	16.0	2.0	5.8	.....	6.3	8.3	8.7	31.0
22	0 26	6 34	—0 01b	6 45b	13.1	16.8	8.8	16.7	2.1	5.9	.....	6.4	8.6	9.1	31.5
23	0 27	6 35	—0 00b	6 46b	13.8	17.7	9.2	17.4	2.1	6.0	.....	6.6	9.0	9.5	31.5
24	0 30	6 38	—0 03b	6 49b	14.0	17.9	9.4	17.7	2.1	6.1	.....	6.7	9.1	9.6	31.5
25	0 45	6 56	—0 19b	7 06b	14.5	18.6	9.7	18.3	2.2	6.2	.....	6.8	9.4	9.9	31.5
26	0 25	6 38	—0 03b	6 49b	12.6	16.1	8.4	16.1	2.0	5.8	.....	6.3	8.3	8.8	31.5
27	0 17	6 32	—0 10b	6 43b	13.0	16.6	8.7	16.6	2.1	5.9	.....	6.4	8.6	9.0	31.5
28	0 20	6 34	—0 07b	6 45b	13.3	17.0	8.9	16.9	2.1	5.9	.....	6.5	8.7	9.1	31.5
29	0 24	6 30	—0 04b	6 41b	12.6	16.1	8.4	16.1	2.0	5.8	.....	6.3	8.3	8.8	31.5
30	0 28	6 31	—0 00b	6 42b	12.9	16.5	8.6	16.5	2.0	5.9	.....	6.4	8.5	8.9	32.0
31	0 30	6 32	—0 04b	6 44b	14.6	18.7	9.8	18.4	2.2	6.2	.....	6.8	9.5	10.0	32.0
32	0 40	6 42	—0 14b	6 54b	15.3	19.6	10.3	19.3	2.3	6.3	.....	6.9	9.9	10.4	32.0
33	0 06	6 19	—0 28b	6 32b	8.5	10.9	5.8	11.4	1.7	4.8	.....	5.2	5.9	6.3	30.0
34	0 12	6 22	—0 18b	6 34b	11.1	14.2	7.5	14.4	1.9	5.4	.....	5.9	7.5	7.9	30.0
35	0 16	6 25	—0 14b	6 37b	11.4	14.6	7.8	14.7	1.9	5.5	.....	6.0	7.6	8.1	30.5
36	0 19	6 27	—0 11b	6 39b	11.6	14.8	7.9	15.0	1.9	5.6	.....	6.1	7.8	8.2	31.0
37	0 46	6 54	—0 15b	7 06b	10.6	13.6	7.2	13.8	1.9	5.3	.....	5.8	7.2	7.6	31.0
38	1 58	6 15	—1 24b	8 28b	8.9	11.4	6.1	11.9	1.7	4.9	.....	5.3	6.2	6.5	31.0
39	0 25	6 37	—0 05b	6 48b	11.9	15.2	8.1	15.3	2.0	5.6	.....	6.1	7.9	8.4	31.0
40	0 06	6 18	—0 30b	6 34b	9.8	12.6	6.6	13.3	2.3	4.9	.....	5.4	6.3	7.4	29.0
41	0 27	6 38	—0 09b	6 54b	10.4	13.4	7.0	14.2	2.3	5.0	.....	5.5	6.8	7.7	29.5
42	0 03	6 12	—0 27b	6 26b	8.7	11.1	5.8	11.2	2.1	4.2	8 04	4.7	5.8	6.1	29.5
43	0 05	6 17	—0 31b	6 31b	7.6	9.7	5.2	10.3	1.6	4.5	.....	4.9	5.3	5.7	30.0
44	0 07	6 18	—0 29b	6 34b	7.7	9.9	5.2	10.5	2.1	4.5	8 02	4.9	5.4	5.8	30.0
45	0 19	6 27	—0 11b	6 39b	11.6	14.8	7.9	15.0	1.9	5.6	.....	6.1	7.7	8.2	30.5
46	0 30	6 40	—0 01b	6 51b	12.0	15.4	8.2	15.4	2.0	5.6	.....	6.2	8.0	8.4	30.5
47	0 31	6 43	—0 02b	6 54b	12.4	15.9	8.4	15.9	2.0	5.7	.....	6.3	8.2	8.7	30.5
48	0 22	6 34	—0 09b	6 46b	10.0	12.8	6.7	13.2	1.8	5.2	.....	5.6	6.8	7.2	30.5
49	0 25	6 41	—0 04b	6 53b	10.6	13.8	6.9	13.4	2.2	5.0	8 15	5.3	7.0	9.3	30.5
50	0 17	6 21	—0 18b	6 35b	8.0	10.2	5.4	10.8	1.6	4.6	.....	5.0	5.6	6.0	30.5
51	0 11	6 17	—0 25b	6 31b	7.8	10.0	5.3	10.5	1.6	4.5	.....	5.0	5.5	5.8	30.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rab. of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (WEST COAST)—Continued.		ALASKA—continued.		Time meridian, 155° W.		Mean Lower Low Water.					
Icy Strait and Cross Sound.		North.	West.	h. m.		h. m.	h. m.	feet.	feet.		
1	Swanson Harbor	58 13	135 07	9 00	Sitka	165	+ 0 29	+ 0 28	+ 5.6	+0.5	
2	Hooniah, Port Frederick	58 07	135 26	9 02	Sitka	165	+ 0 23	+ 0 25	+ 5.4	+0.3	
3	Inian Cove	58 16	136 19	9 05	Sitka	165	- 0 22	+ 0 34	+ 1.8	-0.1	
4	Port Althorp	58 07	136 17	9 05	Sitka	165	- 0 17	- 0 15	0.0	-0.2	
5	Granite Cove	58 12	136 24	9 06	Sitka	165	+ 0 11	+ 0 13	+ 1.0	0.0	
Outer coast.											
6	Port Mulgrave, Yakutat Bay	59 31	139 46	9 19	Sitka	165	+ 0 47	+ 0 43	- 0.3	0.0	
7	Icy Bay	59 55	141 18	9 25	Sitka	165	+ 0 49	+ 0 50	- 0.4	0.0	
8	Controller Bay, Wingham Island	60 05	144 48	9 39	Sitka	165	+ 0 27	+ 0 27	- 0.3	-0.3	
Time meridian, 156° W.											
9	Copper R. Delta, Kokinhenic I.	60 18	145 03	9 40	Kodiak	169	- 0 32	+ 0 12	- 5.8	-1.4	
10	Copper R. Delta, Pete Dahl Slough	60 29	145 24	9 42	Kodiak	169	- 0 33	- 0 07	+ 1.0	+0.2	
11	Eyak River Entrance	60 28	145 40	9 43	Kodiak	169	- 0 25	+ 0 13	- 1.0	-0.3	
Prince William Sound.											
12	Orca Inlet (Cape Whittahed)	60 27	145 50	9 43	Kodiak	169	- 0 40	- 0 14	+ 3.2	+0.3	
13	Orca	60 35	145 40	9 43	Kodiak	169	- 0 39	- 0 43	+ 3.3	+0.3	
14	Windy Bay, Hawkins Island	60 34	145 55	9 44	Kodiak	169	- 0 48	- 0 45	+ 3.1	+0.3	
15	Johnstone Point	60 29	146 32	9 46	Kodiak	169	- 0 48	- 0 43	+ 2.9	+0.4	
16	Port Etches	60 19	146 40	9 47	Kodiak	169	- 0 50	- 0 43	+ 2.1	0.0	
17	Hanning Bay	59 57	147 38	9 51	Kodiak	169	- 0 48	- 0 49	+ 2.6	-0.3	
18	Discovery Bay	60 14	147 40	9 51	Kodiak	169	- 0 46	- 0 48	+ 2.6	+0.3	
19	Smith Island	60 31	147 18	9 49	Kodiak	169	- 0 46	- 0 49	+ 2.7	+0.3	
20	Snug Corner Cove	60 44	146 36	9 46	Kodiak	169	- 0 48	- 0 51	+ 2.8	+0.2	
21	Rocky Point	60 57	146 42	9 47	Kodiak	169	- 0 46	- 0 49	+ 2.9	-0.2	
22	Jack Bay	61 02	146 35	9 46	Kodiak	169	- 0 47	- 0 48	+ 3.2	+0.3	
23	Valdez	61 07	146 13	9 45	Kodiak	169	- 0 47	- 0 45	+ 3.1	+0.3	
Resurrection Bay.											
24	Seward	60 06	149 26	9 58	Kodiak	169	- 0 48	- 0 44	+ 1.6	-0.1	
Cook Inlet.											
25	Port Chatham	59 12	151 44	10 07	Kodiak	169	+ 0 04	0 00	+ 5.3	+0.1	
26	Kachemak Bay	59 36	151 24	10 06	Kodiak	169	+ 0 30	+ 0 32	+10.1	+0.7	
27	Fort Kenai, Kaknu River	60 32	151 19	10 05	Kodiak	169	+ 2 30	+ 2 42	+ 8.6	+0.6	
28	Point Possession	61 04	150 26	10 02	Kodiak	169	+ 4 07	+ 4 24	+14.6	+0.8	
29	Turnagain Bay	60 56	149 30	9 58	Kodiak	169	+ 5 03	+ 5 25	+16.0	+1.0	
30	Knik River	61 17	149 58	10 00	Kodiak	169	+ 4 40	+ 4 57	+14.9	+0.9	
Kodiak Island.											
31	KODIAK (St. Paul Harbor, Kodiak I.)	57 47	152 24	10 10	Kodiak	169	0 00	0 00	0.0	0.0	
32	Karluk River, Shelikof Strait	57 38	154 11	10 17	Kodiak	169	+ 0 29	+ 0 34	+ 0.2	0.0	
Alaska Peninsula.											
33	Katmai Bay, Shelikof Strait	58 05	154 49	10 19	Kodiak	169	+ 0 34	+ 0 39	+ 0.5	0.0	
34	Semidi Islands, Chowiet Island	56 01	156 43	10 27	Kodiak	169	+ 1 48	+ 1 53	- 0.9	-0.1	
35	Shumagin Islands, Simeonof I.	54 55	159 16	10 37	Kodiak	169	+ 2 33	+ 2 38	- 1.3	-0.1	
36	Zacharefskaja Bay, Unga Strait	55 21	160 39	10 43	Kodiak	169	+ 2 59	+ 3 06	- 0.8	0.0	
Sannak Islands.											
57	Peterson Bay	54 23	162 38	10 51	Kodiak	169	- 0 45	- 0 31	- 2.5	+0.1	
38	Acherk Harbor	54 29	162 48	10 51	Kodiak	169	- 0 47	- 0 25	- 1.6	+0.2	
Alutian Islands.											
39	Ikatan Bay, Unimak Island	54 46	163 20	10 53	Kodiak	169	- 0 24	- 0 16	- 2.4	+0.2	
40	Tigalda Bay, Tigalda Island	54 07	161 59	11 00	St. Michael	173	- 6 53	- 7 35	- 0.6	+0.4	
41	Unalga Bay, Unalga Island	54 00	166 10	11 05	Galveston	129	+11 56	+11 32	+ 2.4	0.0	
42	Dutch Harbor, Unalaska Island	53 54	166 32	11 06	Port Townsend	161	+ 0 05	+ 0 29	- 6.0	-2.8	
43	Iliuliuk, Unalaska Island	53 53	166 32	11 06	Port Townsend	161	+ 0 04	+ 0 27	- 5.6	-2.6	
44	Kashega Bay, Unalaska Island	53 28	167 05	11 08	St. Michael	173	- 7 12	- 7 32	+ 0.2	+0.8	
45	Eagle Bay, Unalaska Island	53 28	166 54	11 08	Port Townsend	161	- 2 57	- 2 47	- 3.7	-2.3	
46	Idak Cove, Umnak Island	53 27	167 42	11 11	St. Michael	173	- 7 07	- 6 16	- 0.4	-0.2	
47	Adak Island	51 49	176 52	11 47	Port Townsend	161	- 1 29	- 1 09	- 5.9	-3.5	
48	Kiska Harbor, Kiska Island	51 59	182 27	12 10	Port Townsend	161	- 0 33	- 0 13	- 7.3	-4.0	
49	Attu Island	52 56	186 48	12 27	Port Townsend	161	+ 0 38	+ 1 03	- 6.0	-3.8	
Bering Sea.											
50	St. Paul Island, Pribilof Islands	57 08	170 18	11 21	Port Townsend	161	+ 0 46	+ 1 13	- 6.0	-2.8	
51	Nushagak Bay	59 00	158 29	10 34	Port Townsend	161	- 3 26	- 2 39	- 6.2	-3.6	
52	Goodnews Bay	59 02	161 45	10 47	Port Townsend	161	+ 2 09	+ 2 49	- 3.6	-2.4	
53	Kuskokwim Bay	59 40	161 50	10 47	Port Townsend	161	+ 2 19	+ 2 59	+ 3.4	-1.4	
54	Nunivak Island	60 04	167 15	11 09	Sitka	394	- 4 59	- 5 18	- 5.6	-0.9	
55	St. Matthew Island	60 20	172 25	11 30	Port Townsend	161	+ 1 19	+ 1 54	- 5.6	-2.8	
56	St. Lawrence Island	63 20	170 00	11 20	Port Townsend	161	+ 2 03	+ 2 33	- 7.0	-3.2	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i>
1	0 35	6 46	0 33b	7 08b	12.8	16.8	7.2	18.0	3.2	5.2		6.1	8.4	10.2	31.0
2	0 29	6 42	0 04b	6 53b	12.8	16.5	8.4	15.5	2.3	5.1	8 16	5.5	8.2	8.4	31.0
3	12 05	6 47	11 56a	6 59b	9.6	12.6	6.3	11.3	2.4	4.0		4.7	6.2	7.8	31.0
4	12 10	5 58	11 38a	6 11b	7.9	10.0	5.8	10.1	1.6	4.1		4.4	5.3	5.6	31.0
5	0 13	6 26	0 50b	6 41b	8.7	11.0	5.9	11.3	2.2	4.5		4.9	5.9	6.2	31.0
6	0 06	6 13	— 0 02b	6 57b	7.4	9.5	5.0	10.1	1.6	4.4		4.8	5.2	5.6	31.0
7	0 30	6 42	— 0 06b	6 56b	7.3	9.4	4.9	10.0	1.6	4.4		4.8	5.2	5.5	30.0
8	12 20	6 06	12 16a	7 02b	7.7	10.0	4.5	11.4	3.2	4.1		5.2	5.1	5.9	29.0
9	0 14	6 42	0 04b	7 19b	2.5	3.0	1.8	3.3	1.5	0.5	11 29	1.5	1.2	1.4	28.5
10	0 11	6 45	12 04b	7 04b	7.7	9.7	5.4	10.7	2.9	4.3	8 49	4.9	5.4	5.6	28.5
11	0 18	7 04	— 0 53b	7 17b	8.2	10.6	5.4	11.5	2.9	4.3		4.9	5.1	5.7	28.5
12	0 04	6 36	12 00a	6 51b	9.8	12.8	6.3	12.6	2.9	4.7	8 28	5.2	6.5	6.7	28.5
13	0 05	6 07	12 01a	6 24b	9.9	12.9	6.3	12.7	2.7	4.4	8 22	5.1	6.5	6.7	28.5
14	12 20	6 04	11 52a	6 20b	9.7	12.6	6.3	12.4	2.4	4.5	8 00	5.0	6.4	6.7	28.5
15	12 18	6 04	11 49a	6 20b	9.4	12.3	6.0	12.1	2.4	4.5		5.0	6.4	6.6	28.0
16	12 15	6 08	11 46a	6 19b	9.0	11.7	5.7	11.5	2.9	4.5		5.1	5.8	6.3	28.0
17	12 13	5 53	11 44a	6 09b	9.2	12.0	5.9	11.8	2.3	4.5		5.0	6.2	6.4	27.0
18	12 15	5 54	11 46a	6 10b	9.2	12.0	5.9	11.8	2.3	4.5		5.0	6.2	6.5	27.5
19	12 17	5 55	11 48a	6 11b	9.3	12.0	5.9	11.8	2.3	4.5		5.0	6.2	6.5	28.0
20	12 18	5 56	11 49a	6 12b	9.5	12.3	6.1	12.1	2.4	4.7		5.1	6.2	6.6	28.5
21	12 19	5 57	11 50a	6 13b	9.6	12.4	6.1	12.4	2.5	4.7		5.3	6.3	6.7	28.5
22	12 19	5 59	11 50a	6 10b	9.8	12.7	6.2	12.7	2.6	4.7		5.4	6.5	6.8	28.5
23	12 20	6 03	11 51a	6 20b	9.7	12.5	6.2	12.6	2.6	4.7	7 59	5.4	6.4	6.8	28.5
24	12 05	5 50	11 37a	6 02b	8.4	10.9	5.4	10.7	2.3	4.3		4.8	5.6	6.3	26.5
25	0 24	6 26	0 02b	6 54b	12.1	16.6	7.4	15.5	3.0	4.1		5.2	7.5	7.9	25.0
26	0 50	7 03	0 20b	7 15b	16.4	21.2	10.7	20.5	4.1	5.5		7.0	10.2	10.6	25.0
27	2 50	9 10	2 29b	9 25b	15.0	19.5	9.7	19.1	8.9	5.3		6.7	9.4	9.7	26.0
28	4 30	10 55	4 13b	11 08b	20.1	26.1	13.1	24.7	4.5	6.1		7.7	12.2	12.5	27.0
29	5 30	12 00	5 13b	12 12b	22.0	28.6	14.3	26.8	4.7	6.4		8.1	13.3	13.6	27.0
30	5 05	11 30	4 48b	11 43b	21.0	27.3	13.7	25.7	4.6	6.3		7.9	12.7	13.1	27.0
31	0 17	6 23	— 0 16b	6 46b	6.9	8.9	4.5	9.7	2.7	3.6	8 54	4.5	4.8	5.0	24.0
32	0 37	6 50	0 08b	7 11b	7.2	9.4	4.7	10.0	2.7	3.7		4.6	4.9	5.1	23.0
33	0 40	6 53	0 11b	7 14b	7.4	9.6	4.8	10.2	2.8	3.7		4.7	5.0	5.2	23.0
34	1 45	7 58	1 13b	8 21b	6.2	8.1	4.0	8.7	2.5	3.4		4.3	4.3	4.5	21.5
35	2 20	8 33	1 47b	8 57b	5.8	7.5	3.8	8.3	2.4	3.3		4.2	4.1	4.3	20.0
36	2 40	8 55	2 09b	9 17b	6.3	8.2	4.1	8.8	2.5	3.4		4.3	4.4	4.6	20.0
37	12 13	6 10	11 15a	6 30b	4.4	5.7	2.8	7.0	1.8	4.1	7 34	4.4	3.6	4.0	18.5
38	12 11	6 16	11 17a	6 35b	5.1	6.6	3.3	7.9	1.9	4.4		4.7	4.1	4.5	18.5
39	0 07	6 23	— 0 51b	6 43b	4.5	5.9	2.9	7.1	1.8	4.1		4.5	3.7	4.1	18.5
40	[2 08]	[8 04]	0 08b	8 55b	[0.9]	[1.4]	[0.2]	3.5	—	—	9 35	3.5	1.2	1.7	17.5
41	[3 28]	[8 56]	6 30a	9 13b	[1.3]	[1.5]	[1.0]	4.0	—	—	9 32	3.6	1.8	2.5	17.0
42	3 51	10 00	1 43b	10 02b	2.0	2.2	1.9	4.3	0.4	3.7	10 02	3.6	2.3	2.7	17.0
43	3 50	9 58	1 44b	10 00b	2.3	2.9	1.5	4.9	0.5	4.0		3.9	2.6	3.0	17.0
44	[3 12]	[9 27]	0 23b	9 32b	[1.5]	[1.7]	[1.2]	4.3	—	—	9 34	3.8	1.9	2.7	16.5
45	0 47	6 42	— 0 36b	7 52b	3.8	4.5	2.9	6.8	1.1	5.0		5.1	3.7	4.0	16.5
46	[11 22]	[9 37]	12 09a	10 04b	[3.7]	[4.2]	[3.2]	4.3	—	—		4.2	1.0	2.2	16.0
47	1 35	7 40	— 0 21b	8 29b	2.8	3.5	2.1	5.4	1.2	3.8		4.0	2.7	3.3	11.0
48	2 07	8 12	— 0 11b	9 01b	1.9	2.5	1.4	4.0	1.4	2.7		3.0	1.7	2.3	8.0
49	3 00	9 10	1 30b	9 40b	3.0	3.8	2.2	5.1	1.1	3.1		3.3	2.5	3.1	6.0
50	4 17	10 29	6 15a	10 37b	2.1	2.7	1.4	4.0	0.6	3.5		3.6	2.3	2.8	16.0
51	0 53	7 20	2 40b	7 27a	2.4	3.0	1.6	4.4	0.6	3.7		3.8	2.5	3.0	21.5
52	6 15	0 15	7 38a	0 21a	4.1	5.2	2.7	6.7	0.8	4.9		5.0	3.7	4.5	20.0
53	6 25	0 25	7 18a	0 29a	10.1	13.0	6.8	14.2	1.3	7.7		7.9	7.7	8.9	20.0
54	7 20	0 47	7 10a	0 52b	3.0	3.9	2.1	5.5	1.5	1.6		2.2	2.1	2.8	18.0
55	4 40	11 00	6 27a	11 04b	2.4	3.1	1.6	4.4	0.6	3.7		3.8	2.5	3.0	15.5
56	5 35	11 50	8 01a	12 01b	1.3	1.7	0.9	2.8	0.5	2.7		2.8	1.6	2.0	17.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
NORTH AMERICA (WEST COAST)—Continued.											
ALASKA—Continued.											
Norton Sound, Bering Sea.											
		North.		West.			Time meridian, 165° W.		Mean Lower Low Water.		
		°		h. m.			h. m.	h. m.	feet.	feet.	
1	Cape Dyer	61 49	166 05	11 04	Kodiak	169	- 0 44	- 0 37	- 2.4	- 0.6	0.5
2	Kripniyuk	62 20	165 19	11 01	Kodiak	169	+ 0 28	+ 0 40	- 3.9	- 0.7	0.55
3	Yukon R., Delta, Kwiklok Pass	62 37	164 51	10 59	Kodiak	169	+ 2 41	+ 4 18	- 6.8	- 1.2	0.3
4	Yukon R., Delta, Kwikpak Pass	63 00	164 45	10 59	Kodiak	169	+ 2 18	+ 3 23	- 6.2	- 1.0	0.35
5	Yukon R., Delta, Apoon Pass	63 05	163 32	10 54	St. Michael	173	- 1 18	- 1 42	+ 0.2	0.0	1.65
6	Pitmiaktalik	63 16	162 34	10 50	St. Michael	173	- 1 02	- 1 01	+ 0.4	0.0	1.65
7	St. MICHAEL	63 29	162 02	10 48	St. Michael	173	0 00	0 00	0.0	0.0	1.65
8	North Bay, Stuart Island	63 37	162 30	10 50	St. Michael	173	- 0 22	- 0 16	- 0.2	+ 0.2	0.5
9	Golofnin Bay	64 32	163 00	10 52	St. Michael	173	+ 1 20	+ 2 16	- 0.2	+ 0.2	0.5
10	Nome	64 30	165 26	11 02	St. Michael	173	+ 4 50	+ 5 06	- 1.6	+ 1.0	0.3
Bering Sea—Continued.											
11	Port Clarence	65 13	166 24	11 06	Kodiak	169	+ 5 53	+ 7 10	- 6.9	- 1.0	0.35
Arctic Ocean.											
12	Chamisso Island, Kotzebue Sound	66 15	161 45	10 47	Bombay	257	+ 5 39	- 6 01	- 5.8	- 1.0	0.5
13	Point Barrow	71 18	156 40	10 27	Baltimore	97	+ 4 35	+ 4 06	- 0.8	0.0	0.35
ASIA (EAST COAST).											
SIBERIA.											
Arctic Ocean.											
				East.			Local time.				
14	Pitlekaj	67 03	186 30	12 26	Baltimore	97	- 6 57	- 7 30	- 1.0	0.0	0.5
Bering Sea—Continued.											
15	St. Lawrence Bay	65 38	189 00	12 36	Batavia	205	+ 7 26	+ 6 32	+ 1.1	- 0.3	1.55
16	Plover Bay	64 22	186 38	12 27	Batavia	205	+ 6 48	+ 5 57	+ 1.2	- 0.4	1.55
17	Anadir Bay	64 43	178 20	11 53	Batavia	205	+ 7 22	+ 6 28	+ 6.2	- 1.4	3.5
18	Cape Ollutorsk	59 55	170 21	11 21	Aden	265	+ 10 20	+ 10 21	0.0	+ 0.4	0.2
19	Nikolski, Komandorski Ids	55 11	166 01	11 04	Aden	265	+ 7 51	+ 7 37	+ 0.4	+ 0.4	0.5
Kamchatka.											
20	Petropavlovsk, Avatcha Bay	53 00	158 43	10 35	Aden	265	+ 7 52	+ 7 53	+ 0.6	+ 0.4	1.65
21	Cape Lopatka, Kuril Strait	50 45	156 50	10 27	Aden	265	+ 8 17	+ 8 16	+ 0.2	+ 0.4	0.95
Okhotsk Sea.											
22	Tigli River Entr., Kamchatka	58 01	158 10	10 33	Aden	265	- 11 59	- 11 57	+ 11.4	+ 1.4	3.5
23	Ghigiga River Entrance	62 00	160 40	10 43	Aden	265	- 7 23	- 7 07	+ 12.6	+ 1.4	4.2
24	Port Aian	56 25	138 30	9 14	Aden	265	- 7 50	- 6 44	+ 3.3	+ 0.7	1.55
25	Amur River Entrance	52 56	141 15	9 25	Aden	265	- 8 41	- 8 30	+ 0.1	+ 0.3	0.95
26	North Bay, Sakhalin Island	51 20	142 35	9 30	Aden	265	- 9 06	- 9 07	- 0.1	+ 0.4	0.65
Russian Tartary.											
27	Castries Bay	51 26	140 52	9 23	Port Townsend	161	- 6 15	- 5 40	- 3.4	- 3.0	0.25
28	Dul Road, Sakhalin Island	50 50	142 06	9 28	Port Townsend	161	- 6 20	- 5 45	- 4.4	- 3.0	0.5
29	Barracouta Harbor	49 02	140 19	9 21	Port Townsend	161	- 7 10	- 6 40	- 6.5	- 3.3	0.35
30	Aniwa Bay, Sakhalin Island	46 29	143 18	9 33	Aden	265	+ 12 24	+ 13 13	- 1.6	+ 0.2	0.5
31	Olga Bay	43 42	135 12	9 01	Port Townsend	161	- 3 39	- 3 09	- 6.6	- 3.4	0.5
32	Vladivostok	43 07	131 54	8 48	Port Townsend	161	- 1 45	- 1 15	- 7.3	- 3.5	0.5
JAPAN.											
Northeast Islands.											
33	Shakotan	43 52	146 49	9 47	Aden	265	+ 7 10	+ 7 08	- 2.0	- 0.3	0.55
34	Taraku Sima	43 38	146 20	9 45	Yokohama	177	- 2 20	- 2 12	- 1.8	- 0.2	0.55
35	Shuisho Sima	43 27	145 52	9 43	Aden	265	+ 7 29	+ 7 27	- 1.4	- 0.1	0.65
Yezo Island.											
36	Soya Saki	45 31	141 54	9 28	Aden	265	- 10 24	- 10 25	+ 0.1	0.0	1.0
37	Notsuke Harbor	43 33	145 18	9 41	Aden	265	+ 8 33	+ 8 34	- 1.0	- 0.3	0.8
38	Nemoro	43 20	145 35	9 42	Aden	265	+ 7 15	+ 7 14	- 2.4	- 0.3	0.45
39	Akkeshi	43 02	144 51	9 39	Aden	265	+ 7 26	+ 7 24	- 1.6	- 0.2	0.65
40	Kushiro	43 00	144 22	9 37	Port Townsend	161	- 1 34	- 1 07	- 7.8	- 4.5	0.55
41	Mororan, Endermo Harbor	42 20	141 07	9 24	Aden	265	+ 7 32	+ 7 31	- 1.1	- 0.1	0.55
42	Hakodate, Tsugar Strait	41 48	140 42	9 23	Aden	265	+ 7 41	+ 7 47	- 1.6	- 0.2	0.65
43	Otaru, Sea of Japan	43 12	140 54	9 24	Port Townsend	161	- 1 09	- 0 42	- 9.6	- 4.8	0.65

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	12 00	5 50	11 25a	6 15b	5.2	6.7	3.4	7.4	2.3	3.1	.....	3.9	3.3	3.8	19.0
2	0 50	7 10	0 08b	7 41b	3.8	4.9	2.5	5.8	2.0	2.7	.....	3.3	2.5	3.0	19.0
3	3 05	10 50	1 56b	11 39b	1.4	1.8	0.9	2.4	1.2	1.6	.....	2.0	0.8	1.3	20.0
4	2 42	9 55	1 43b	10 39b	1.8	2.3	1.2	3.1	1.3	1.8	.....	2.3	1.2	1.6	20.5
5	[6 50]	[1 00]	5 50b	2 30a	[1.2]	[1.0]	[1.1]	4.8	.....	.....	.....	4.6	1.4	2.1	20.5
6	[7 10]	[1 45]	6 10b	3 15a	[1.3]	[1.1]	[1.2]	5.0	.....	.....	.....	4.8	1.5	2.2	21.0
7	[8 07]	[1 27]	7 14b	4 18a	[1.2]	[1.4]	[0.9]	4.6	.....	.....	18 37	4.3	1.3	2.0	21.5
8	[7 50]	[2 30]	6 50b	4 00a	[0.9]	[1.0]	[0.8]	4.1	.....	.....	.....	1.4	1.3	1.8	21.5
9	[11 19]	[5 23]	8 30b	6 30a	[1.0]	[0.7]	[0.9]	2.7	.....	.....	.....	2.5	1.2	0.8	21.5
10	[2 05]	[8 25]	11 50b	9 10a	[1.3]	[1.5]	[0.8]	2.1	.....	.....	.....	1.8	1.0	1.1	20.5
11	6 10	1 10	5 29b	1 14a	1.0	1.1	0.9	1.5	0.3	0.8	13 46	0.8	0.8	0.9	20.0
12	5 00	11 50	4 40a	11 30a	4.0	5.0	3.0	5.5	1.0	1.8	.....	2.0	2.6	2.8	23.5
13	11 37	5 22	11 45b	4 47b	0.4	0.5	0.2	0.5	0.2	0.1	0 13	0.2	0.2	0.2	32.0
14	0 13	6 24	0 53b	5 48b	0.3	0.4	0.2	0.4	0.1	0.1	16 17	0.2	0.1	0.2	17.0
15	[6 10]	[12 10]	5 17b	14 45b	[0.8]	.....	.....	4.2	.....	.....	.....	4.0	1.3	1.9	17.5
16	[5 32]	[11 32]	4 39b	14 10b	[0.9]	.....	.....	4.4	.....	.....	.....	4.2	1.3	2.0	18.0
17	[6 05]	[12 05]	5 12b	14 40b	[2.1]	.....	.....	10.5	.....	.....	.....	10.3	3.3	5.0	11.0
18	6 00	12 15	5 00b	12 27b	3.3	4.5	1.8	4.8	0.7	2.8	.....	2.9	2.6	2.7	4.5
19	4 00	10 13	3 08b	10 25b	3.5	4.7	1.9	5.0	0.7	2.9	.....	3.0	2.8	2.9	1.5
20	3 30	9 45	2 35b	9 57b	3.8	5.1	2.1	5.4	0.7	3.0	.....	3.1	2.9	3.1	2.0
21	3 55	10 08	2 58b	10 19b	3.4	4.6	1.9	4.9	0.7	2.8	.....	2.9	2.7	2.9	2.5
22	8 30	2 20	8 01b	2 26a	13.7	18.5	7.5	16.7	1.4	5.7	.....	5.9	8.8	9.2	2.0
23	0 40	7 10	0 13a	7 16a	14.8	20.0	8.1	18.0	1.4	5.9	.....	6.1	9.4	9.9	0.0
24	0 10	7 30	0 33a	7 39a	6.2	8.4	3.4	8.2	0.9	3.8	.....	4.0	4.4	4.7	11.0
25	11 45	5 45	10 48b	5 56a	3.4	4.6	1.9	4.9	0.7	2.8	.....	2.9	2.6	2.9	9.5
26	11 20	5 08	10 20b	5 21a	3.1	4.2	1.7	4.5	0.6	2.7	.....	2.8	2.5	2.7	9.0
27	10 45	4 40	9 55b	5 49a	4.7	6.3	2.6	6.3	0.8	3.3	.....	3.5	3.5	3.6	9.5
28	10 40	4 35	9 46b	4 46a	3.9	5.2	2.2	5.5	0.7	3.0	.....	3.1	3.0	3.2	9.0
29	9 50	3 40	8 36b	3 55a	2.0	2.7	1.1	3.2	0.5	2.2	.....	2.2	1.8	2.0	9.0
30	8 00	2 48	6 42b	3 04a	1.9	2.6	1.1	3.0	0.5	2.1	.....	2.2	1.7	1.9	7.5
31	0 55	7 10	0 23a	7 26a	1.9	2.5	1.1	3.0	0.5	2.1	.....	2.2	1.7	1.9	7.5
32	2 45	9 00	1 13a	9 19a	1.4	1.9	0.8	2.4	0.4	1.8	.....	1.9	1.3	1.6	7.0
33	3 34	9 46	2 16b	10 02b	1.9	2.6	1.0	3.0	0.5	2.1	10 40	2.2	1.3	1.8	5.5
34	3 31	9 44	5 09a	9 39b	1.9	2.7	0.9	2.2	0.3	2.4	9 22	2.4	1.4	1.9	5.5
35	3 48	10 00	2 32b	10 22b	2.3	3.1	1.4	4.0	0.9	2.7	11 13	2.9	1.6	2.4	5.5
36	10 30	4 18	9 29b	4 35a	3.7	4.8	2.4	5.8	1.1	3.4	.....	3.7	2.4	3.3	7.5
37	4 50	11 05	3 43b	11 24b	2.9	3.7	1.8	4.7	1.0	3.0	.....	3.2	1.8	2.7	6.0
38	3 33	9 46	0 29b	9 49b	1.5	2.1	0.5	2.6	0.3	2.5	9 47	2.5	1.0	1.6	5.5
39	3 41	9 53	2 18b	10 00b	2.2	3.0	1.4	3.6	0.4	2.6	10 14	2.7	1.5	2.2	6.0
40	3 39	9 51	1 52b	9 54b	1.9	2.6	1.1	3.3	0.3	2.7	9 53	2.7	1.3	2.1	6.0
41	3 32	9 45	2 13b	9 56b	2.6	3.5	1.5	4.1	0.5	2.9	10 20	3.0	1.8	2.5	6.5
42	3 40	10 00	2 15b	10 11b	2.2	3.0	1.2	3.6	0.4	2.7	.....	2.7	1.5	2.2	6.5
43	3 50	10 02	1 42a	10 10a	0.4	0.5	0.3	0.8	0.1	0.7	22 38	0.7	0.2	0.5	7.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
ASIA (EAST COAST)—Continued.											
JAPAN—continued.											
Nipon Island.											
		North.	East.				Time meridian, 135° E.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m. h. m.	feet. feet.			
1	Moura.....	40 57	140 52	9 23	Nagasaki.....	181	- 4 57	- 5 01	-5.8	-0.9	0.2
2	Ominato.....	41 15	141 09	9 25	Singapore.....	201	+ 5 10	+ 5 16	-5.2	-1.0	0.3
3	Yamada Harbor.....	39 27	141 59	9 28	Yokohama.....	177	+ 1 03	+ 0 53	-1.2	-0.2	0.7
4	Tateyama.....	34 59	139 51	9 19	Yokohama.....	177	- 0 20	- 0 12	-1.0	-0.2	0.7
5	YOKOHAMA (Nishihatoba).....	35 27	139 39	9 19	Yokohama.....	177	0 00	0 00	0.0	0.0	1.0
6	Yenoura.....	35 03	138 54	9 16	Karachi.....	261	+ 6 35	+ 6 39	-2.9	-0.3	0.4
7	Shimidzu.....	35 01	138 31	9 14	Karachi.....	261	+ 6 37	+ 6 40	-2.0	-0.3	0.7
8	Sakushima.....	34 44	137 02	9 08	Yokohama.....	177	+ 0 52	+ 1 00	+0.5	+0.1	1.4
9	Yokkaichi.....	34 57	136 38	9 07	Karachi.....	261	+ 6 58	+ 7 01	-0.9	0.0	0.6
10	Toba.....	34 29	136 50	9 07	Karachi.....	261	+ 6 52	+ 6 56	-2.1	-0.2	0.5
11	Matoya.....	34 22	136 52	9 07	Karachi.....	261	+ 6 45	+ 6 48	-2.7	-0.3	0.7
12	Hamashima.....	34 18	136 45	9 07	Karachi.....	261	+ 7 10	+ 7 19	-2.3	-0.2	0.6
13	Osaka Roads, Inland Sea.....	31 33	135 27	9 02	Karachi.....	261	+ 8 28	+ 8 39	-2.3	-0.2	0.6
14	Shimotsu, Inland Sea.....	34 26	133 48	8 55	Bombay.....	257	+11 34	+11 41	-3.0	-0.6	0.7
15	Tomo, Inland Sea.....	34 23	133 22	8 53	Bombay.....	257	+11 34	+11 42	-1.5	-0.3	0.7
16	Onomichi, Inland Sea.....	34 24	133 12	8 53	Bombay.....	257	+11 22	+11 29	-1.9	-0.5	0.6
17	Simonsaki.....	33 59	130 53	8 44	Nagasaki.....	181	+ 0 36	+ 0 34	-2.6	-1.1	0.7
18	Setozaki, Sea of Japan.....	34 24	131 12	8 45	Key West.....	125	+ 2 15	+ 2 14	+0.5	+0.2	1.3
19	Hagi, Sea of Japan.....	34 25	131 24	8 46	Hongkong.....	197	+ 1 18	+ 1 32	-2.9	-0.9	0.8
20	Yasaki, Sea of Japan.....	34 39	131 39	8 47	Hongkong.....	197	+ 1 44	+ 1 58	-3.3	-0.8	0.5
21	Tonoura, Sea of Japan.....	34 54	132 04	8 48	Hongkong.....	197	+ 2 16	+ 2 30	-3.6	-0.9	0.7
22	Sagura, Sea of Japan.....	35 26	132 41	8 51	Hongkong.....	197	+ 3 40	+ 3 55	-3.8	-1.0	0.7
23	Yonago, Sea of Japan.....	35 22	133 18	8 53	Port Townsend.....	161	-12 01	-11 34	-9.6	-4.8	0.6
24	Shibayama, Sea of Japan.....	35 39	134 39	8 59	San Francisco Ent.....	153	-10 17	- 9 53	-4.6	-1.2	0.7
25	Tsuyama, Sea of Japan.....	35 39	134 50	8 59	Aden.....	265	- 5 31	- 5 32	-3.6	-0.5	0.4
26	Tsuruga Bay, Sea of Japan.....	35 43	136 00	9 04	Aden.....	265	- 5 34	- 5 36	-3.6	-0.5	0.4
27	Ao, Sea of Japan.....	36 53	136 59	9 08	Aden.....	265	- 5 22	- 5 24	-3.6	-0.5	0.4
28	Naoyedzu, Sea of Japan.....	37 11	138 14	9 13	Aden.....	265	- 5 25	- 5 27	-3.7	-0.5	0.4
29	Amaze, Sea of Japan.....	37 32	138 41	9 15	Aden.....	265	- 5 40	- 5 41	-3.7	-0.5	0.4
30	Funakawa, Sea of Japan.....	39 54	139 51	9 19	St. Michael.....	167	+ 4 58	+ 4 44	-2.6	+0.9	0.3
Shikoku Island.											
31	Urado.....	33 30	133 35	8 54	Bombay.....	257	+ 6 41	+ 6 48	-6.5	-1.1	0.3
32	Susaki, Nomi Harbor.....	33 23	133 17	8 53	Karachi.....	261	+ 7 02	+ 7 06	-2.2	-0.2	0.6
33	Uwajima.....	33 13	132 33	8 50	Karachi.....	261	+ 8 27	+ 8 46	-2.0	-0.3	0.7
34	Aoshima, Inland Sea.....	33 44	132 29	8 50	Nagasaki.....	181	+ 0 38	+ 0 33	+0.4	0.0	1.0
Kiushu Island.											
35	Kakaji, Inland Sea.....	33 40	131 31	8 46	Bombay.....	257	+ 9 20	+ 9 27	-2.4	-0.3	0.7
36	Tasman Bay.....	31 22	131 09	8 45	Karachi.....	261	+ 7 00	+ 7 04	-0.6	0.0	0.9
37	Yamagawa.....	31 13	130 38	8 43	Karachi.....	261	+ 8 37	+ 8 41	+1.8	+0.4	1.3
38	Kagoshima.....	31 35	130 34	8 42	Karachi.....	261	+ 7 59	+ 8 35	+2.6	+0.4	1.4
39	Kabashima.....	32 34	129 47	8 39	Shanghai.....	189	+ 0 05	- 1 34	-0.4	+0.7	0.5
40	NAGASAKI.....	32 45	129 52	8 39	Nagasaki.....	181	0 00	0 00	0.0	0.0	1.0
41	Matsushima.....	32 56	129 36	8 38	Nagasaki.....	181	+ 0 08	+ 0 03	+0.1	+0.1	1.0
42	Tawaranoura.....	33 07	129 40	8 39	Nagasaki.....	181	+ 0 18	+ 0 13	-0.1	0.0	0.9
43	Fukushima, Korea Strait.....	33 21	129 49	8 39	Nagasaki.....	181	+ 0 58	+ 0 53	-1.2	-0.2	0.6
44	Kariya, Korea Strait.....	33 28	129 50	8 39	Singapore.....	201	+11 46	+11 51	-1.5	-0.4	0.6
Tsushima Island.											
45	Hirugaura, Korea Strait.....	34 19	129 16	8 37	Nagasaki.....	181	+ 1 09	+ 1 05	-1.5	-0.1	0.7
Riu Kiu or Loo Choo Islands.											
46	Hancock Bay, Amami Ou Sima.....	28 17	129 10	8 37	Singapore.....	201	+ 9 55	+ 9 58	-1.5	-0.4	0.6
47	Nafa Klang, Okinawa Sima.....	26 12	127 40	8 31	Singapore.....	201	+ 9 01	+ 9 04	-1.9	-0.5	0.7
Miyako Sima Islands.											
48	Miyako Sima.....	24 48	125 18	8 21	Singapore.....	201	+ 9 47	+ 9 52	-2.7	-0.6	0.6
Formosa.											
49	Kelung Harbor.....	25 08	121 46	8 07	San Diego.....	149	-12 12	-12 12	-2.2	-0.6	0.5
50	Sauo Bay.....	24 46	121 50	8 07	San Diego.....	149	+ 8 23	+ 8 23	+0.3	-0.2	1.1
51	Takau Harbor.....	22 30	120 16	8 01	San Diego.....	149	-12 04	-12 03	-1.3	-0.5	0.7
52	Anping.....	23 00	120 09	8 01	San Diego.....	149	-12 09	-12 09	-0.6	-0.4	0.6
53	Tamsui Harbor.....	25 10	121 25	8 06	Singapore.....	201	+11 57	+12 02	0.0	-0.2	1.0

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above place of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn.)	Spring (Sg.)	Neap (Np.)	Great tropic (Gc.)	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West. °</i>
1	3 37	9 50	4 07a	9 50b	1.3	1.8	0.6	1.4	0.1	0.5	9 45	0.5	0.9	6.0	6.0
2	3 35	9 48	3 04b	9 51b	1.5	2.0	0.8	1.7	0.1	0.7	10 14	0.7	1.0	1.0	6.0
3	4 30	10 45	5 44a	10 40b	2.5	3.4	1.3	3.7	0.3	2.6	-----	2.6	1.7	2.3	5.5
4	5 04	11 17	6 16a	11 12b	2.7	3.7	1.4	4.0	0.3	2.7	10 50	2.7	1.8	2.4	4.5
5	5 24	11 29	4 26b	11 32b	3.5	4.8	1.9	4.9	0.4	2.9	11 39	2.9	2.4	3.0	4.5
6	5 52	12 05	6 41a	11 57b	3.0	4.2	1.5	4.0	0.4	2.1	11 13	2.2	2.1	2.3	4.5
7	5 52	12 04	6 44a	11 56b	2.9	3.9	1.6	3.9	0.4	2.2	11 13	2.3	2.0	2.3	4.5
8	6 06	12 19	7 07a	12 07b	3.9	5.4	2.0	6.6	0.8	3.4	11 19	3.6	2.7	3.3	4.5
9	6 06	12 17	6 44a	12 13b	4.7	6.4	2.6	5.8	0.4	2.7	11 44	2.7	3.2	3.4	4.5
10	5 59	12 12	6 47a	12 06b	3.7	5.0	2.1	4.9	0.4	2.6	11 32	2.7	2.5	2.9	4.5
11	5 52	12 04	6 44a	12 01b	3.2	4.3	1.7	4.2	0.3	2.4	11 42	2.4	2.2	2.5	4.5
12	6 23	0 10	7 24a	0 25a	3.5	4.7	2.0	4.7	0.5	2.5	11 40	2.5	2.4	2.8	4.5
13	7 30	1 25	8 30a	1 40a	3.5	4.7	2.0	4.7	0.5	2.5	-----	2.5	2.4	2.7	4.5
14	11 18	5 05	11 46a	5 42a	6.4	8.4	3.9	8.6	2.4	3.0	14 40	3.9	4.2	4.4	4.5
15	11 16	5 04	11 42a	4 44a	7.6	10.2	4.5	9.7	2.4	3.2	14 44	4.0	5.1	5.0	4.5
16	11 04	4 51	11 31a	4 35a	7.4	9.7	4.7	9.5	2.1	3.3	14 58	3.9	4.8	5.0	4.5
17	8 30	2 20	8 50b	2 13a	4.7	6.7	2.4	5.0	0.6	1.4	-----	1.5	3.4	2.7	4.5
18	10 55	4 42	10 29b	5 40a	1.5	2.0	0.7	2.2	1.2	0.6	21 16	1.4	1.0	1.0	4.5
19	11 16	5 08	10 43b	6 08a	1.3	1.7	0.6	2.0	1.2	0.7	21 20	1.4	0.8	0.9	4.5
20	11 41	5 28	10 57b	6 46a	0.8	1.1	0.5	1.6	1.0	0.6	21 41	1.2	0.6	0.7	4.5
21	12 12	5 59	11 41b	7 21a	0.6	0.8	0.4	1.2	0.8	0.3	22 45	0.9	0.4	0.5	5.0
22	1 08	7 21	0 29a	8 21a	0.5	0.6	0.3	0.9	0.5	0.3	23 19	0.6	0.3	0.4	5.0
23	4 51	11 03	3 02a	11 24a	0.4	0.4	0.2	0.7	0.1	0.6	24 15	0.6	0.2	0.4	5.0
24	2 07	8 20	0 42a	8 45a	0.5	0.6	0.4	0.9	0.2	0.6	21 57	0.7	0.3	0.5	5.0
25	2 28	8 41	0 51a	8 59a	0.5	0.6	0.4	0.9	0.2	0.7	21 53	0.7	0.3	0.5	5.0
26	2 30	8 42	0 52a	8 59a	0.5	0.6	0.4	0.9	0.2	0.7	-----	0.7	0.3	0.5	5.0
27	2 46	8 58	1 11a	9 23a	0.5	0.6	0.4	1.0	0.2	0.8	22 28	0.8	0.3	0.6	5.0
28	2 48	9 00	1 14a	9 28a	0.4	0.6	0.3	0.8	0.2	0.6	22 38	0.7	0.3	0.5	5.5
29	2 36	8 49	1 10a	9 15a	0.4	0.6	0.3	0.8	0.2	0.6	22 28	0.6	0.3	0.5	5.5
30	[3 07]	[9 19]	0 36a	9 51a	[0.5]	[0.7]	[0.4]	1.1	-----	-----	22 42	1.0	0.4	0.7	6.0
31	6 24	0 11	6 59a	0 10a	3.4	4.5	2.1	4.7	1.3	2.0	10 14	2.4	2.2	2.5	4.5
32	5 55	12 08	6 42a	12 05b	3.6	5.0	2.0	4.7	0.3	2.5	11 46	2.5	2.5	2.8	4.5
33	7 17	1 20	8 04a	1 17a	3.9	5.3	2.2	5.0	0.8	2.6	-----	2.6	2.6	2.9	4.5
34	8 38	2 25	9 00a	2 15a	6.6	8.9	3.8	7.6	1.2	2.2	12 52	2.5	4.4	4.0	4.5
35	8 55	2 42	9 24a	2 30a	6.7	9.2	3.7	8.2	1.3	3.1	13 22	3.4	4.6	4.5	4.5
36	5 45	11 58	6 25a	11 56b	5.0	6.8	2.8	6.3	0.4	2.9	-----	2.9	3.4	3.7	3.5
37	7 20	1 08	7 54a	1 06a	7.0	9.5	3.9	8.6	0.5	3.4	-----	3.4	4.8	4.9	3.5
38	6 40	1 00	7 12a	0 58a	7.8	10.5	4.4	9.4	0.5	3.6	-----	3.6	5.2	5.3	3.5
39	0 05	6 17	0 06b	5 45a	6.2	8.4	3.5	7.3	2.9	0.4	12 54	3.0	4.2	3.0	4.0
40	7 49	1 41	8 21a	1 37a	6.2	8.4	3.4	7.3	0.4	3.0	13 26	3.0	4.2	4.2	4.0
41	7 56	1 44	8 27a	1 37a	6.2	8.6	3.2	7.2	0.7	2.9	13 04	3.0	4.3	4.1	4.0
42	8 07	1 54	8 40a	1 48a	6.1	8.5	3.0	7.0	0.6	2.9	13 22	3.0	4.2	4.0	4.0
43	8 47	2 34	8 17b	2 36a	6.2	7.0	2.8	5.9	0.8	2.3	15 09	2.3	3.5	3.4	4.5
44	9 23	3 10	8 51b	3 18a	4.6	6.4	2.5	5.4	0.6	2.2	16 27	2.3	3.2	3.1	4.5
45	8 56	2 44	9 15a	2 37a	4.8	6.7	2.4	5.1	0.6	1.8	13.30	1.4	3.4	2.7	4.5
46	7 30	1 15	7 00b	1 29a	4.6	6.2	2.6	5.3	1.0	2.2	-----	2.4	3.1	3.1	3.0
47	6 30	0 15	6 00b	0 29a	4.3	5.8	2.5	5.4	1.0	2.1	-----	2.3	2.9	3.0	2.0
48	7 27	1 14	6 53b	1 30a	3.6	4.9	2.1	4.7	0.9	2.0	15 17	2.2	2.4	2.6	2.0
49	10 15	4 03	9 31b	4 23a	2.2	3.0	1.3	3.0	0.7	1.5	-----	1.7	1.5	1.7	1.5
50	6 00	12 13	5 26b	12 29b	4.3	5.8	2.5	5.4	1.0	2.1	-----	2.3	2.9	3.0	1.0
51	9 45	3 32	9 07b	3 49a	3.0	4.0	1.7	3.9	0.8	1.8	-----	2.0	2.0	2.2	0.5
52	9 50	3 38	9 16b	3 54a	3.6	4.9	2.1	4.6	0.9	1.9	-----	2.2	2.4	2.5	1.0
53	10 00	3 47	9 33b	3 59a	5.9	8.0	3.4	7.2	1.2	2.5	-----	2.8	4.0	3.9	1.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Ratio of range.
			Arc.	Time.			HW.	LW.	HW.	LW.	
ASIA (EAST COAST)—Continued.											
KOREA.		North.	East.				Local time.		Mean Lower Low Water.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Yung-hing Bay.....	39 13	127 18	8 29	San Diego	149	- 4 46	- 4 47	- 2.5	- 0.5	0.47
2	Tsau-liang-hai or Chosan.....	35 07	129 03	8 36	San Diego	149	+10 05	+10 05	+ 1.2	- 0.2	1.33
3	Port Hamilton.....	34 01	127 17	8 29	Calcutta	245	- 4 16	- 6 30	- 1.2	- 0.8	0.98
4	Chemulpo (Inner Harbor).....	37 29	126 36	8 26	Calcutta	245	- 9 02	-11 16	+12.4	- 0.6	2.64
5	Seoul.....	37 30	127 00	8 28	Calcutta	245	+ 8 24	+ 6 33	- 4.2	- 0.8	0.59
CHINA.											
							Time meridian, 120° East.				
6	Port Arthur.....	38 50	121 16	8 05	Tientsin Entrance	165	- 5 30	- 6 06	- 0.8	0.0	0.99
7	Newchwang.....	40 35	122 00	8 08	Tientsin Entrance	165	+ 1 17	+ 0 46	+ 3.2	+ 0.4	1.40
8	TIENTSIN ENTR., Taku Light Ship.....	38 55	117 52	7 51	Tientsin Entrance	165	0 00	0 00	0.0	0.0	1.00
9	Tientsin.....	39 09	117 11	7 49	Tientsin Entrance	165	+ 3 56	+ 3 40	- 3.8	- 0.4	0.30
10	Hoangho or Yellow River Entr.....	37 54	118 34	7 54	Tientsin Entrance	165	+ 1 01	+ 0 23	+ 2.0	+ 0.2	1.24
11	Chefoo.....	37 34	121 31	8 06	Tientsin Entrance	165	- 5 11	- 5 49	- 0.2	0.0	0.98
12	Wei-hai-Wei.....	37 29	122 13	8 09	Tientsin Entrance	165	- 6 20	- 6 58	+ 0.6	+ 0.2	1.07
13	Shantung Promontory.....	37 24	122 42	8 11	Tientsin Entrance	165	+ 0 43	+ 0 04	- 1.5	- 0.1	0.81
14	Sang-kau Bay.....	37 06	122 27	8 10	Shanghai.....	189	+ 0 28	- 1 13	- 2.6	- 0.6	0.74
15	Kyau-chau Harbor.....	36 00	120 20	8 01	Shanghai.....	189	+ 4 42	+ 3 02	+ 0.8	- 0.8	1.22
16	SHANGHAI, Wusung Bar.....	31 21	121 30	8 06	Shanghai.....	189	0 00	0 00	0.0	0.0	1.00
17	Nankin, Yangtze River.....	32 10	118 55	7 56	Shanghai.....	189	- 1 38	- 3 18	- 4.9	- 0.7	0.41
18	Hang Chu Bay.....	30 14	120 14	8 01	Shanghai.....	189	- 0 58	- 2 38	- 3.3	- 0.1	1.17
19	Ning-Po, Yung River.....	29 57	121 47	8 07	Shanghai.....	189	+ 0 46	- 0 55	- 1.1	- 0.7	0.95
20	Taichow Islands.....	28 24	121 52	8 07	Amoy.....	193	- 3 55	- 3 51	- 1.2	0.0	0.81
21	Namquam or Nam Kwan Harbor.....	27 12	120 23	8 02	Amoy.....	193	- 2 50	- 2 45	+ 1.4	+ 0.2	1.18
22	Min River Entrance.....	26 02	119 40	7 59	Amoy.....	193	- 2 52	- 2 47	+ 2.9	+ 0.1	1.12
23	Fuchau, Min River.....	26 08	119 24	7 58	Amoy.....	193	+ 0 19	+ 0 41	+ 3.2	+ 0.2	1.14
24	Hungwha Sound.....	25 24	119 14	7 57	Amoy.....	193	- 1 20	- 1 16	+ 6.4	+ 0.2	1.41
25	Meichen Sound.....	25 08	119 00	7 56	Amoy.....	193	+ 0 11	+ 0 15	+ 1.1	+ 0.1	1.06
26	Hul-i-tau Bay.....	24 36	118 26	7 54	Amoy.....	193	- 0 02	+ 0 02	+ 0.5	+ 0.1	1.03
27	Amoy (Inner Harbor).....	24 28	118 03	7 52	Amoy.....	193	0 00	0 00	0.0	0.0	1.00
28	Tongsang Harbor.....	23 54	117 31	7 50	Amoy.....	193	- 1 08	- 1 03	- 3.1	- 0.1	0.77
29	Swatow.....	23 20	116 40	7 47	Hongkong.....	197	- 7 40	+ 3 33	0.0	+ 0.2	0.91
30	Honghai Bay.....	22 50	115 11	7 41	Hongkong.....	197	+ 0 23	+ 0 37	+ 1.7	+ 0.1	1.41
31	HONGKONG.....	22 17	114 10	7 37	Hongkong.....	197	0 00	0 00	0.0	0.0	1.00
32	Whampoa.....	23 05	113 26	7 34	Hongkong.....	197	+ 3 53	+ 4 41	+ 1.2	- 0.4	1.43
33	Canton.....	23 08	113 16	7 33	Hongkong.....	197	+ 5 06	+ 5 08	- 0.3	- 0.9	1.45
34	Macao.....	22 14	113 34	7 34	Hongkong.....	197	+ 0 30	+ 0 45	+ 1.6	+ 0.2	1.43
35	Hul-ling-san Harbor.....	21 40	111 46	7 27	Hongkong.....	197	- 0 53	- 0 39	+ 2.6	+ 0.2	1.69
							Time meridian, 105° East.				
36	Tien pak Harbor.....	21 28	111 13	7 25	Hongkong.....	197	+ 1 39	+ 1 53	+ 3.2	+ 0.2	1.87
37	Nauchau Passage.....	21 00	110 38	7 23	Hongkong.....	197	+ 0 01	+ 0 15	+ 6.4	+ 0.6	2.73
38	Hoi Hau, Hainan Island.....	20 04	110 05	7 20	Hongkong.....	197	- 3 05	- 2 50	+ 3.1	+ 0.3	1.54
39	Yulinan Bay, Hainan Island.....	18 15	109 33	7 18	Hongkong.....	197	- 1 08	- 0 53	- 1.8	- 0.4	0.54
40	Pakhol.....	21 27	109 02	7 16	Hongkong.....	197	+ 7 24	+ 7 38	+ 7.8	+ 0.6	3.20
COCHIN CHINA.											
							Local time.				
41	Kua Kam.....	20 45	106 47	7 07	Hongkong.....	197	- 0 45	- 0 30	- 0.1	- 0.1	1.00
42	Hue River Entrance.....	16 35	107 40	7 11	Hongkong.....	197	- 0 15	- 0 08	- 1.8	- 0.4	0.57
43	Hon Kohe Bay.....	12 40	109 11	7 17	Singapore.....	201	-11 26	-11 20	- 2.2	- 0.2	0.65
44	Saigon.....	10 50	106 42	7 07	Singapore.....	201	- 5 20	- 5 07	+ 1.8	+ 0.2	1.28
SIAM.											
45	Chentabun River Entrance.....	12 28	102 07	6 48	Singapore.....	201	- 0 20	- 0 12	- 2.5	- 0.3	0.60
46	Paknam, Menam River.....	13 30	100 38	6 43	Singapore.....	201	- 5 10	- 5 02	+ 0.6	0.0	1.07
47	Bangkok, Menam River.....	13 40	100 32	6 42	Singapore.....	201	- 2 20	- 2 02	- 0.2	0.0	0.95
MALAY PENINSULA.											
							East coast.				
48	Lakon Roads.....	8 33	100 05	6 40	Singapore.....	201	- 0 15	- 0 09	- 2.6	- 0.2	0.55
49	Singora.....	7 18	100 40	6 43	Singapore.....	201	- 2 00	- 1 54	- 4.0	- 0.6	0.87
50	Tringano River.....	5 25	103 06	6 52	Singapore.....	201	- 2 20	- 2 14	- 1.4	- 0.2	0.53
51	SINGAPORE.....	1 17	103 51	6 55	Singapore.....	201	0 00	0 00	0.0	0.0	1.00
							West coast.				
52	Malakka Road.....	2 12	102 12	6 49	Singapore.....	201	- 3 00	- 2 54	+ 2.4	+ 0.2	1.87
53	One Fathom Bank.....	2 52	100 59	6 44	Singapore.....	201	- 4 30	- 4 27	+ 5.6	+ 0.4	1.89
54	Perak River Entrance.....	4 05	100 44	6 43	Singapore.....	201	- 7 15	- 7 10	+ 0.9	+ 0.1	1.12
55	Georgetown, Penang Island.....	5 24	100 20	6 41	Singapore.....	201	-10 55	-10 47	+ 1.0	+ 0.2	1.14
56	Salang or Junkseylon Island.....	8 00	98 21	6 33	Singapore.....	201	+12 06	+12 24	+ 1.1	+ 0.1	1.16

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	5 10	11 22	4 23a	11 44b	1.8	2.5	1.0	2.6	0.7	1.4	.....	1.5	1.4	1.4	5.5
2	7 35	1 23	7 07b	1 36a	5.2	7.0	3.0	6.4	1.1	2.3	.....	2.6	3.4	3.5	5.0
3	9 05	2 52	9 12b	2 40a	7.7	10.5	4.2	7.2	1.4	0.7	.....	1.6	4.1	3.5	4.5
4	4 19	10 31	4 23b	10 24b	21.1	28.8	11.6	20.3	2.3	1.2	18 30	2.6	11.0	9.9	5.0
5	9 20	3 30	9 28a	3 15b	4.7	6.5	2.6	4.3	1.1	0.6	.....	1.2	2.6	2.0	5.0
6	10 05	3 53	9 26a	3 55b	6.5	7.5	5.5	8.8	0.2	4.4	.....	4.4	4.8	5.4	4.5
7	4 30	10 50	8 59b	10 52b	10.2	11.7	8.7	13.1	0.3	5.5	.....	5.5	7.0	7.7	5.0
8	2 56	9 47	2 20b	9 49b	7.3	8.4	6.2	9.8	0.2	4.6	9 41	4.7	5.2	5.9	3.5
9	6 50	1 00	6 00b	1 01a	3.9	4.5	3.3	5.7	0.2	3.4	.....	3.4	3.1	3.6	3.5
10	4 00	10 13	3 28b	10 15b	9.1	10.5	7.7	11.8	0.3	5.2	.....	5.2	6.3	7.0	3.0
11	10 25	4 13	9 47a	4 15b	7.0	8.1	6.0	9.4	0.2	4.5	.....	4.6	5.1	5.7	4.0
12	9 20	3 08	8 45a	3 10b	7.8	9.0	6.6	10.4	0.3	4.8	.....	4.8	5.6	6.2	4.5
13	4 00	10 12	3 20a	10 14a	5.9	6.8	5.0	8.1	0.2	4.2	.....	4.2	4.4	5.0	4.5
14	0 45	6 57	0 38b	7 21b	5.4	6.9	3.6	5.8	1.9	0.6	.....	2.0	2.4	2.6	4.0
15	4 50	11 03	4 45b	11 21b	8.9	11.4	6.0	9.4	2.4	0.7	.....	2.5	4.0	4.3	3.5
16	0 13	8 06	0 11b	8 25b	7.3	9.2	4.9	7.8	2.3	1.2	12 11	2.3	4.0	3.6	3.0
17	10 50	4 38	10 41a	5 10b	3.1	4.0	2.1	3.4	1.4	0.4	.....	1.5	1.2	1.5	3.0
18	11 35	5 23	11 30a	5 40b	10.7	13.7	7.2	11.2	2.6	0.8	.....	2.8	5.6	5.2	2.5
19	1 00	7 12	0 54b	7 33b	6.9	8.8	4.6	7.3	2.1	0.7	.....	2.2	3.1	3.3	2.5
20	8 50	2 37	9 05a	2 35a	11.6	14.1	8.9	12.9	0.4	3.0	.....	2.9	6.8	7.1	2.5
21	9 50	3 38	10 04a	3 36a	14.1	17.2	10.9	15.5	0.4	3.3	.....	3.2	8.2	8.4	2.0
22	9 45	3 33	9 58a	3 31a	15.6	19.0	12.0	17.0	0.5	3.4	.....	3.4	8.9	9.2	1.5
23	0 30	7 00	0 43b	6 58a	15.8	19.3	12.2	17.3	0.5	3.5	.....	3.4	9.1	9.4	1.0
24	11 15	6 02	11 27a	5 01a	18.9	23.0	14.6	20.5	0.5	3.8	.....	3.7	10.7	11.0	1.0
25	0 20	6 32	0 34b	6 30a	13.8	16.9	10.6	15.1	0.4	3.2	.....	3.2	8.0	8.2	1.0
26	0 05	6 17	0 19b	6 15a	13.2	16.1	10.2	14.5	0.4	3.2	.....	3.1	7.7	7.9	1.0
27	0 04	6 13	0 19b	6 12a	12.8	15.6	9.8	14.0	0.5	3.1	17 59	3.1	7.4	7.6	0.5
28	11 20	5 08	11 37a	5 06a	9.8	12.0	7.6	10.9	0.4	2.7	.....	2.7	5.8	6.0	0.5
29	1 53	6 39	2 59b	6 36a	8.0	3.5	2.5	5.3	1.4	3.5	18 40	3.5	2.8	3.1	0.5
30	9 50	3 37	9 13b	4 23a	4.9	6.4	3.0	3.2	3.7	3.1	.....	5.1	3.6	4.0	0.5
31	9 23	2 56	8 31b	3 51a	3.3	4.4	2.1	6.2	3.0	2.8	18 32	4.3	2.7	3.1	East. 0.0
32	0 48	7 34	0 17a	8 07a	4.8	6.0	3.3	7.1	3.0	2.9	22 42	3.8	3.1	3.5	0.0
33	2 00	8 00	1 19a	8 50a	3.9	5.1	2.4	6.8	3.3	2.8	.....	4.4	2.1	3.3	0.0
34	9 50	3 38	9 13b	4 24a	4.8	6.3	3.0	3.2	3.7	3.1	.....	5.0	3.6	3.9	0.0
35	8 20	2 07	7 45b	2 50a	5.6	7.4	3.5	9.2	4.0	3.4	.....	5.5	4.1	4.5	0.5
36	11 50	5 37	11 17b	6 17a	6.2	8.2	3.8	9.9	4.2	3.5	.....	5.7	4.3	4.8	0.5
37	10 10	3 57	9 42b	4 31a	9.1	12.0	5.6	13.6	5.1	4.3	.....	7.0	6.2	6.6	0.5
38	7 00	0 48	6 27b	1 29a	6.1	8.0	3.8	9.8	4.2	3.5	.....	5.7	4.4	4.8	0.5
39	8 55	2 43	7 53b	3 59a	1.8	2.3	1.1	3.8	2.3	1.9	.....	3.1	1.6	1.8	1.0
40	5 00	11 12	4 34a	11 43a	10.6	14.0	6.6	15.4	5.5	4.6	.....	7.5	6.9	7.6	0.5
41	9 00	2 48	8 14b	3 44a	3.3	4.3	2.1	6.0	3.1	2.6	.....	4.2	2.6	2.9	1.0
42	9 30	3 15	8 31b	4 27a	1.9	2.5	1.2	3.9	2.3	1.9	.....	3.1	1.6	1.8	1.5
43	11 20	5 08	10 27b	5 22a	3.7	5.0	2.2	5.2	0.9	3.0	.....	3.2	2.9	3.1	2.0
44	5 00	11 20	4 23a	11 30a	7.3	9.8	4.2	9.4	1.2	4.2	.....	4.4	5.1	5.4	2.0
45	10 00	3 50	9 06a	4 04b	3.4	4.5	2.1	4.8	0.8	2.9	.....	3.0	2.7	3.9	2.0
46	5 10	11 25	4 29a	11 36a	6.1	8.2	3.6	8.1	1.1	3.9	.....	4.1	4.4	4.6	1.5
47	8 00	2 00	7 17a	2 11b	5.4	7.3	3.1	7.2	1.1	3.6	.....	3.8	4.0	4.1	1.5
48	10 05	3 53	9 10a	4 08b	3.3	4.5	1.9	4.7	0.8	2.9	.....	3.0	2.7	2.7	1.0
49	8 20	2 08	7 10a	2 26b	2.1	2.8	1.2	3.3	0.7	2.3	.....	2.4	1.8	1.9	1.0
50	8 00	1 48	7 12a	2 01b	4.3	5.8	2.5	6.0	1.0	3.3	.....	3.4	3.3	3.5	1.5
51	10 20	4 02	9 37a	4 15b	5.7	7.4	3.5	7.6	1.1	3.8	5 14	3.9	4.1	4.4	1.0
52	7 20	1 08	6 44a	1 17b	7.8	10.5	4.5	10.0	1.3	4.4	.....	4.6	5.4	5.7	1.0
53	5 50	12 00	5 19a	12 08a	10.7	14.4	6.2	13.3	1.5	5.1	.....	5.4	7.1	7.4	1.0
54	3 05	9 17	2 26a	9 27a	6.4	8.6	3.7	8.4	1.2	4.0	.....	4.1	4.6	4.8	1.0
55	11 50	5 40	11 11b	5 50a	6.5	8.8	3.8	5.5	1.2	4.0	.....	4.2	4.7	4.9	1.0
56	10 00	4 00	9 22b	4 10a	6.6	8.9	3.8	8.6	1.2	4.0	.....	4.2	4.7	4.9	0.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
MALAY OR EASTERN ARCHIPELAGO.											
EAST INDIES.											
Malakka Strait, Sumatra.											
		North.	East.				Local time.		Mean Lower Low Water.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Acheh Head.....	5 33	95 18	6 21	Singapore	201	+12 06	+12 08	-2.0	-0.2	0.88
2	Diamond Point.....	5 16	97 30	6 30	Singapore	201	+10 54	-10 52	+0.9	+0.1	1.12
3	Deli River Entrance.....	3 45	98 43	6 35	Singapore	201	- 7 31	- 7 29	+0.9	0.0	1.11
4	Slak River Entrance.....	1 20	102 14	6 49	Singapore	201	- 1 30	- 1 38	+3.1	+0.3	1.47
5	Garras Light, Rhio Strait.....	0 45	104 21	6 57	Singapore	201	- 0 40	- 0 48	-0.4	0.0	0.98
Sumatra, east coast, etc.											
		South.									
6	Linga, Linga Island.....	0 14	104 34	6 58	Singapore	201	- 4 20	- 4 14	+3.2	+0.2	1.42
7	Tanjong Kalean, Banka Strait.....	1 58	105 07	7 00	Galveston	129	+12 27	+10 59	+7.5	-1.3	6.85
8	Nangka Island, Banka Strait.....	2 24	105 47	7 03	Galveston	129	+13 00	+13 14	+6.7	-1.1	6.36
9	Banka Point, Banka Strait.....	2 53	106 08	7 05	Galveston	129	+12 02	+12 00	+6.0	-1.0	5.66
10	Tobo Ali Bay, Banka Strait.....	3 00	106 27	7 06	Galveston	129	- 9 34	- 9 17	+7.5	-1.1	6.73
11	Clifton Shoal.....	4 54	106 03	7 04	Galveston	129	- 8 05	- 9 14	+2.4	-0.6	3.00
Sunda Strait.											
12	Java, Fourth Point.....	6 04	105 53	7 04	Sitka	165	+ 6 30	+ 6 30	-7.4	-1.4	0.22
13	Krakatoa Island.....	6 09	105 25	7 02	Sitka	165	+ 6 09	+ 6 09	-6.5	-1.4	0.34
14	Kalang Bayang Harbor, Sumatra ..	5 44	105 02	7 00	Sitka	165	+ 5 29	+ 5 32	-7.7	-1.4	0.18
15	Java First Point.....	6 44	105 11	7 01	Sitka	165	+ 4 49	+ 4 49	-7.4	-1.4	0.22
Sumatra, southwest coast.											
16	Flat Cape.....	5 56	104 33	6 58	Key West.....	125	- 3 12	- 3 13	+0.7	+0.1	1.49
17	Benkulen.....	3 41	102 13	6 49	Key West.....	125	- 3 02	- 3 02	+1.7	+0.1	2.32
18	Padang.....	0 56	100 23	6 42	Key West.....	125	- 3 16	- 3 16	+2.7	+0.1	3.14
		North.									
19	Ayer Bangies.....	0 12	99 23	6 38	Key West.....	125	- 3 22	- 3 22	+0.8	0.0	1.59
20	Tapanuli Bay.....	1 35	98 50	6 35	Key West.....	125	- 3 01	- 3 02	+2.8	+0.2	3.23
Java, etc.											
		South.									
21	BATAVIA (Tandjong Priok).....	6 06	106 53	7 08	Batavia.....	205	0 00	0 00	0.0	0.0	1.00
22	Samarang.....	6 57	110 25	7 22	Batavia.....	205	- 0 42	+ 1 54	+1.0	-0.2	1.43
23	Pangka Point.....	6 55	112 34	7 30	Batavia.....	205	+10 17	+12 53	+1.9	-0.3	1.79
24	Arisbaya, Surabaya Strait.....	6 56	112 50	7 31	Batavia.....	205	+ 9 47	+12 12	+2.0	-0.4	1.82
25	Sembilangan, Surabaya Strait.....	7 04	112 40	7 31	Batavia.....	205	+12 50	+ 9 21	+1.9	-0.3	1.79
26	Surabaya, Surabaya Strait.....	7 12	112 44	7 31	Hongkong.....	197	+ 2 21	+ 2 35	+0.6	+0.4	1.09
27	Gading, Madura Strait.....	7 11	112 54	7 32	Aden.....	265	- 8 30	- 8 31	+1.8	+0.8	1.25
28	Karang Kleta, Madura Strait.....	7 20	112 48	7 31	Aden.....	265	- 8 36	- 8 38	+1.8	+0.8	1.25
29	Pasuruan, Madura Strait.....	7 38	112 55	7 32	Aden.....	265	- 8 38	- 8 40	+1.6	+0.8	1.25
30	Sapodje Island, Madura Strait.....	7 05	114 16	7 37	Batavia.....	205	+12 25	+10 41	+2.4	+0.2	1.79
31	Meinderts Reef, Madura Strait.....	7 40	114 26	7 38	Batavia.....	205	+12 12	+10 16	+1.8	+0.2	1.57
32	Banjoewangi, Baly Strait.....	8 13	114 23	7 38	Sydney.....	229	-11 06	-11 08	+1.8	-0.4	1.65
33	Pangul, Java, south coast.....	8 16	111 26	7 26	Sydney.....	229	-11 51	-11 50	+0.4	-0.4	1.24
34	Tylatiap, Java, south coast.....	7 45	109 04	7 16	Sydney.....	229	+12 17	+12 18	-0.2	-0.4	1.09
35	Wynkoops Bay, Java, south coast..	6 55	106 30	7 06	Sydney.....	229	+ 8 35	+ 8 35	+0.1	-0.3	1.13
Baly.											
36	Tebunkus Road.....	8 11	115 00	7 40	Sydney.....	229	+ 8 39	+ 8 39	+0.6	-0.4	1.57
37	Badong Bay.....	8 42	115 07	7 40	Sydney.....	229	-10 16	-10 15	+2.4	-0.4	1.83
Lombok.											
38	Ampenam Bay.....	8 35	116 04	7 44	Sydney.....	229	+11 34	+11 34	+0.4	-0.4	1.21
39	Piju Bay.....	8 49	116 31	7 46	Sydney.....	229	- 9 37	- 9 36	+4.0	-0.4	2.22
Sumbawa.											
40	Bima Bay.....	8 25	118 42	7 55	Sydney.....	229	- 8 42	- 8 42	+0.3	-0.4	1.21
41	Sapie Bay.....	8 30	119 01	7 56	Sydney.....	229	- 7 52	- 7 51	+3.0	-0.4	2.01
Sumba or Sandalwood Island.											
42	Palmedo Road.....	9 22	119 45	7 59	Sydney.....	229	- 9 07	- 9 06	+6.2	-0.4	2.96
43	Nangamessie Harbor.....	9 34	120 15	8 01	Sydney.....	229	- 9 47	- 9 47	+8.0	-0.4	3.46
Flores or Mangarei Island.											
44	Alligator Bay.....	8 45	119 50	7 59	Sydney.....	229	- 8 47	- 8 46	+0.4	-0.4	1.21
45	Adenara, Adenara Island.....	8 14	123 07	8 12	Sydney.....	229	-10 07	-10 06	+1.7	-0.3	1.60
Timor.											
46	Koepang.....	10 10	123 35	8 14	Sydney.....	229	-10 17	-10 17	+2.2	-0.4	1.55
47	Dilhi.....	8 34	125 48	8 23	Sydney.....	229	- 7 58	- 7 57	+0.4	-0.4	1.21
48	Cyrus Harbor, Rotti Island.....	10 51	123 05	8 12	Sydney.....	229	- 9 17	- 9 17	+0.2	-0.4	1.13

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.	
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.		
	HWI.	LWI.	HHWI.	LLWI.												
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °	
1	10 00	3 44	9 10b	3 57a	3.9	5.2	2.3	5.5	0.9	3.1	.....	3.2	3.0	3.2	0.0
2	11 50	5 34	11 11b	5 45a	6.4	8.7	3.7	8.4	1.2	4.0	.....	4.2	4.6	4.8	0.5
3	2 48	8 57	2 08a	9 07a	6.3	8.5	3.7	8.3	1.2	3.9	.....	4.1	4.5	4.7	0.5
4	8 50	2 24	8 16a	2 33b	8.4	11.8	4.9	10.7	1.3	4.6	.....	4.8	5.8	6.1	1.0
5	9 40	3 14	8 54a	3 26b	5.8	7.1	3.1	7.1	1.1	3.6	.....	3.8	3.9	4.1	1.0
6	6 00	12 13	5 26a	12 22a	8.5	11.5	4.9	10.8	1.3	4.6	.....	4.8	5.8	6.1	1.0
7	[6 25]	[0 12]	7 45a	— 3 01a	[4.1]	10.3	8 37	9.9	3.7	5.1	1.0
8	[6 50]	[0 38]	8 22a	— 0 46a	[3.7]	9.3	8.2	3.4	4.6	1.0
9	[5 42]	[11 54]	7 20a	10 25b	[3.4]	8.4	8 54	7.8	3.1	4.2	1.0
10	[9 05]	[2 52]	10 34a	1 31a	[4.0]	10.1	8.6	3.8	5.2	1.0
11	[9 50]	[3 37]	12 08a	1 36a	[1.8]	4.5	5.7	1.5	2.2	0.5
12	7 11	0 58	6 46b	1 09a	1.7	2.4	0.7	1.8	0.3	0.6	15 01	0.6	1.0	1.0	0.5	
13	6 50	0 37	6 25b	0 48a	2.6	3.8	1.1	2.7	0.3	0.7	.....	0.8	1.5	1.5	0.0
14	6 10	0 00	5 42b	0 12a	1.4	2.0	0.6	1.5	0.3	0.5	.....	0.6	0.9	0.8	0.0
15	5 30	11 42	5 07b	11 52b	1.7	2.5	0.7	1.8	0.3	0.6	.....	0.6	1.0	1.0	0.0
16	5 40	11 52	5 38b	12 41b	1.8	2.6	0.7	2.5	1.3	0.2	.....	1.3	1.0	0.9	0.0
17	5 50	12 03	5 48b	12 42b	2.8	4.0	1.1	3.7	1.6	0.3	.....	1.6	1.5	1.4	0.0
18	5 35	11 48	5 34b	12 20b	3.8	5.5	1.4	4.8	1.8	0.3	.....	1.8	2.0	1.9	0.0
19	5 29	11 42	5 27b	12 28b	1.9	2.8	0.7	2.6	1.3	0.2	17 33	1.3	1.0	1.0	0.0	
20	5 50	12 02	5 49b	12 35b	3.9	5.7	1.5	4.9	1.9	0.3	.....	1.9	2.1	2.0	0.0
21	[12 04]	[5 52]	10 05a	8 02b	[0.5]	[0.7]	[0.0]	2.8	.....	.....	9 05	2.7	0.9	1.4	0.5
22	[6 00]	[12 13]	9 23a	9 56b	[0.8]	.....	.....	4.0	.....	.....	9 35	3.8	1.3	2.0	1.0
23	[4 35]	[10 48]	7 58b	8 31a	[1.0]	.....	.....	5.0	.....	.....	20 42	5.0	1.7	2.5	1.0
24	[3 35]	[9 48]	7 28b	7 50a	[1.0]	.....	.....	5.1	.....	.....	20 07	5.1	1.7	2.5	1.0
25	[12 09]	[5 56]	10 31b	4 59a	[1.0]	.....	.....	5.0	.....	.....	20 13	4.7	1.7	2.5	1.0
26	12 07	5 54	10 54b	6 42a	3.6	4.9	1.7	6.5	2.6	3.8	20 35	5.0	3.2	3.4	1.0	
27	11 52	5 40	10 50b	6 07a	4.5	6.2	2.3	7.2	2.1	4.3	19 41	4.8	3.7	4.0	1.0	
28	11 46	5 33	10 49b	6 02a	4.5	6.2	2.4	7.5	2.3	4.2	19 48	4.8	3.7	4.1	1.0	
29	11 44	5 31	10 46b	6 02a	4.5	6.2	2.3	7.2	2.3	4.0	19 50	4.7	3.6	4.0	1.0	
30	[11 38]	[5 25]	10 06b	6 19a	[2.3]	[2.9]	[1.6]	5.0	.....	.....	19 58	4.2	2.2	2.7	1.0
31	[11 17]	[5 04]	9 53b	5 54a	[2.1]	[2.6]	[1.5]	4.4	.....	.....	19 38	3.9	1.9	2.4	1.0
32	10 00	3 45	9 45b	4 13a	5.5	7.8	2.6	6.6	2.2	1.3	19 15	2.6	2.8	3.1	1.0	
33	9 15	3 03	8 59b	3 34a	4.2	5.9	2.0	5.1	1.9	1.1	.....	2.2	2.1	2.4	1.0
34	8 33	2 21	8 16b	2 54a	3.7	5.2	1.8	4.5	1.8	1.0	18 44	2.1	1.8	2.1	0.5	
35	4 50	11 02	4 38b	11 34b	3.8	5.3	1.8	4.7	1.8	1.1	.....	2.1	2.0	2.2	0.0
36	4 55	11 07	4 39b	11 38b	4.3	6.0	2.1	5.2	1.9	1.1	.....	2.3	2.2	2.4	1.0
37	10 50	4 38	10 36b	5 04a	6.2	8.7	3.0	7.3	2.3	1.3	.....	2.7	3.1	3.4	1.0
38	7 50	1 37	7 33b	2 09a	4.1	5.8	2.0	5.0	1.9	1.1	.....	2.2	2.1	2.3	1.0
39	11 30	5 18	11 18b	5 41a	7.7	10.9	3.7	8.9	2.6	1.5	.....	3.0	3.9	4.2	1.0
40	0 00	6 12	— 0 17a	6 44a	4.1	5.7	2.0	5.0	1.9	1.1	.....	2.2	2.1	2.3	1.5
41	0 50	7 03	0 37a	7 27a	6.8	9.6	3.3	8.0	2.5	1.4	.....	2.8	3.4	3.7	1.5
42	12 00	5 48	11 49b	6 08a	10.0	14.2	4.8	11.4	3.0	1.7	.....	3.4	5.0	5.4	1.5
43	11 20	5 07	11 10b	5 26a	11.7	16.5	5.6	13.2	3.2	1.9	.....	3.7	5.9	6.3	1.5
44	12 20	6 08	12 03b	6 40a	4.1	5.7	2.0	5.0	1.9	1.1	.....	2.2	2.1	2.3	1.5
45	11 00	4 48	10 46b	5 15a	5.4	7.6	2.6	6.5	2.2	1.3	.....	2.5	2.8	3.0	2.0
46	10 50	4 37	10 36b	5 02a	6.0	8.5	2.9	7.1	2.3	1.3	.....	2.7	3.0	3.3	2.0
47	0 45	6 58	0 28a	7 30a	4.1	5.7	2.0	5.0	1.9	1.1	.....	2.2	2.1	2.3	2.0
48	11 50	5 37	11 33b	6 09a	3.9	5.5	1.9	4.8	1.9	1.1	.....	2.1	2.0	2.2	2.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
MALAY OR EASTERN ARCHIPELAGO—Continued.											
EAST INDIES—continued.											
Gaspar Strait.		South.	East.				Local time.		Mean Lower Low Water.		
		°	°	h. m.			h. m.	h. m.	feet.	feet.	
1	Langwas Island, Billiton Island	2 32	107 37	7 10	Batavia	205	- 2 20	- 0 13	+3.2	-0.6	2.5
2	Shoalwater Island	3 19	107 13	7 09	Batavia	205	- 1 55	+ 0 08	+2.4	-0.4	2.0
Carimata Strait.											
3	Montaran Islands	2 35	108 44	7 15	Batavia	205	+ 5 27	+ 7 31	+1.8	-0.4	1.7
4	Kumpul Island	2 43	110 04	7 20	Batavia	205	+ 6 17	+ 8 20	+4.0	-0.8	2.2
Borneo.											
5	Bajor, Koetel River Entrance	0 43	117 33	7 50	Galveston	129	+ 1 40	+ 2 32	+4.8	-0.8	4.7
6	Kotta Baroe Reef	3 12	116 40	7 47	Galveston	129	- 0 34	- 0 18	+4.0	+1.0	3.6
7	Jelal River Entrance	2 53	110 45	7 23	Singapore	201	+ 1 09	+ 1 15	-0.3	-0.1	0.95
8	Padang Tikar River	0 38	109 15	7 17	Singapore	201	- 3 21	- 3 16	-0.4	0.0	0.95
North.											
9	Burong Islands	0 47	108 42	7 15	Singapore	201	- 5 46	- 5 41	-0.7	-0.1	0.8
10	Po Point, Sarawak River Entrance	1 43	110 31	7 22	Singapore	201	- 6 21	- 6 16	+1.2	0.0	1.15
11	Sarawak, Sarawak River	1 32	110 21	7 22	Singapore	201	- 5 01	- 4 53	+5.2	+0.4	1.2
12	Victoria Harbor, Labuan Island	5 20	115 12	7 41	Singapore	201	+11 38	+11 44	-1.6	-0.2	0.72
13	Kudat Harbor	6 53	116 51	7 47	Manila	209	- 0 43	- 0 17	-0.1	-0.1	1.0
14	Sandakan Harbor	5 50	118 07	7 52	Manila	209	- 0 09	- 0 27	+2.4	-0.2	1.9
Celebes.											
15	Manado Bay	1 30	124 46	8 19	Port Townsend	161	+ 1 27	+ 1 57	-4.0	-2.6	0.73
16	Likupang River, Banka Strait	1 41	125 02	8 20	Port Townsend	161	+ 2 02	+ 2 30	-1.8	-2.2	1.20
South.											
17	Makassar	5 09	119 22	7 57	Port Townsend	161	+ 0 08	+ 0 38	-4.4	-2.6	0.67
18	Brill or Spectacle Reef	6 05	118 54	7 56	Port Townsend	161	- 3 59	- 3 31	-6.7	-3.1	0.31
Molucca Islands.											
19	Cajeli Bay, Bouru Island	3 19	127 04	8 28	Port Townsend	161	- 3 13	- 2 46	-4.0	-2.6	0.7
20	Ambolna Bay, Ambolna Island	3 41	128 07	8 32	Port Townsend	161	- 2 13	- 1 46	-0.8	-2.0	1.27
21	Wahai Bay, Ceram Island	2 46	129 31	8 38	Port Townsend	161	+ 1 16	+ 1 15	-5.0	-2.8	0.57
22	Banda Harbor, Banda Islands	4 33	129 53	8 40	Port Townsend	161	- 2 49	- 2 22	+0.7	-1.9	1.53
23	Dobbo Harbor, Arru Islands	5 45	134 16	8 57	Port Townsend	161	- 2 14	- 1 47	-2.5	-2.3	0.98
24	Sannana Bay, Xulla Besi Island	2 03	125 57	8 24	Port Townsend	161	- 2 33	- 2 08	+0.6	-1.8	1.51
25	Gebi, Fow Island	0 05	129 30	8 38	Port Townsend	161	+ 0 26	+ 0 53	-3.6	-2.4	0.80
North.											
26	Ternate	0 50	127 20	8 29	Port Townsend	161	+ 0 27	+ 0 52	-4.4	-2.6	0.67
27	Manganitu Bay, Sangir Island	8 30	125 28	8 22	Port Townsend	161	+ 0 17	+ 0 42	-2.4	-2.2	1.0
PHILIPPINE ISLANDS.											
Sulu Islands.											
							Time meridian, 120° East.				
28	Tataan Harbor, Tawi-tawi Island	5 13	119 56	8 00	Sydney	229	+10 18	+10 21	-0.2	+0.2	0.88
29	Port Siasl, Siasl Island	5 32	120 51	8 03	Sydney	229	+ 9 39	+ 9 40	+4.2	+0.2	2.21
30	Maimbun, Jolo Island	5 55	121 01	8 04	Sydney	229	+ 9 49	+10 01	-0.5	-0.3	0.91
31	Jolo, Jolo Island	6 04	120 59	8 04	Sydney	229	+10 54	+11 07	-0.1	-0.3	1.06
Mindanao Island.											
32	Davao or Vergara, Gulf of Davao	7 02	125 35	8 22	Sydney	229	+ 9 31	+ 9 34	+0.9	-0.1	1.29
33	Polloc, Illana Bay	7 24	124 12	8 17	Sydney	229	+ 9 48	+ 9 47	+1.2	-0.2	1.38
34	Cherif Island, Dumanquilas Bay	7 38	123 06	8 12	Sydney	229	+ 9 36	+ 9 39	+1.7	-0.1	1.33
35	Isabela, Basilan Island	6 42	121 58	8 08	Manila	209	- 2 06	+ 1 47	-1.2	+0.5	0.61
36	Zamboanga, Basilan Strait	6 54	122 08	8 08	Sydney	229	+10 30	+10 35	0.0	0.0	0.87
37	Port Dapitan	8 38	123 24	8 14	Sydney	229	-11 51	-11 48	0.0	-0.2	1.07
38	Iligan, Iligan Bay	8 13	124 12	8 17	Sydney	229	- 9 52	-10 05	-0.5	+0.3	0.77
39	Surigao	9 48	125 29	8 22	Sydney	229	+11 30	+11 33	+1.3	-0.3	1.47
40	Port Cacub, Siargao Island	9 50	126 03	8 24	Sydney	229	+ 9 43	+ 9 46	+3.2	+0.2	1.83
Palawan Island.											
41	Secam Island, Balabac Strait	8 11	116 58	7 48	Manila	209	+ 1 29	+ 1 01	+0.5	0.0	1.11
42	Ulugan Bay	10 06	118 47	7 55	Manila	209	+ 0 01	- 0 27	+1.0	-0.1	1.35
43	Cavern Island	11 13	119 16	7 57	Manila	209	- 0 01	- 0 29	+0.8	0.0	1.18
44	Paly or Barren Island	10 42	119 42	7 59	Manila	209	- 0 03	- 1 01	+1.2	-0.2	1.32
45	Puerto Princesa	9 44	118 42	7 55	Manila	209	+ 1 21	- 1 17	+1.7	-0.4	1.48
Panay and Guimaras Islands.											
46	Iloilo, Panay Island	10 42	122 34	8 10	Hongkong	197	+ 2 37	+ 1 51	-0.3	-0.4	1.06
47	Capiz Landing, Libas Bay, Panay Id	11 36	122 43	8 11	Hongkong	197	+ 1 32	+ 1 36	0.0	-0.3	1.09
48	Bondulan Point, Guimaras Island	10 38	122 33	8 10	Hongkong	197	+ 1 24	+ 1 02	-0.9	-0.3	0.82
49	Cabugao Point, Guimaras Island	10 45	122 39	8 11	Hongkong	197	+ 1 40	+ 1 57	+1.0	+0.2	1.23

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW. interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
1	<i>h. m.</i> [3 17]	<i>h. m.</i> [9 29]	<i>h. m.</i> 7 45 <i>a</i>	<i>h. m.</i> 7 49 <i>b</i>	<i>feet.</i> [1.3]	<i>feet.</i>	<i>feet.</i>	<i>feet.</i> 6.6	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i> 7 50	<i>feet.</i> 6.6	<i>feet.</i> 2.2	<i>feet.</i> 3.3	<i>East.</i> 1.0
2	[2 08]	[8 21]	8 10 <i>a</i>	8 10 <i>b</i>	[1.1]			5.6			8 12	5.5	1.9	2.8	1.0
3	[9 30]	[3 18]	15 32 <i>a</i>	3 08 <i>a</i>	[1.0]			4.9				4.9	1.6	2.4	1.0
4	[10 20]	[4 07]	16 22 <i>a</i>	3 57 <i>a</i>	[1.5]			7.5				7.5	2.5	3.8	1.0
5	[7 45]	[1 33]	9 24 <i>b</i>	0 58 <i>b</i>	[2.8]			7.0				6.0	2.6	3.5	2.0
6	[5 31]	[11 44]	7 10 <i>b</i>	11 09 <i>a</i>	[3.9]			4.6	1.3	3.3	22 18	3.7	3.1	2.6	1.5
7	11 30	5 18	10 47 <i>b</i>	5 29 <i>b</i>	5.4	7.3	3.1	6.9	1.1	3.6		3.8	3.9	4.1	1.5
8	7 00	0 47	6 17 <i>b</i>	0 59 <i>b</i>	5.3	7.2	3.1	7.1	1.0	3.6		3.8	3.9	4.1	1.5
9	4 35	10 47	3 51 <i>b</i>	10 59 <i>a</i>	5.0	6.7	2.9	6.8	1.0	3.5		3.6	3.7	3.9	1.5
10	4 00	10 12	3 22 <i>b</i>	10 22 <i>a</i>	6.7	9.0	3.9	8.7	1.2	4.0		4.2	4.7	5.0	2.0
11	5 20	11 35	4 49 <i>b</i>	11 43 <i>a</i>	10.4	14.1	6.1	12.9	1.5	5.0		5.3	6.9	7.2	2.0
12	9 35	3 23	8 47 <i>b</i>	3 36 <i>a</i>	4.1	3.5	2.4	5.7	0.9	3.2		3.3	3.2	3.3	2.0
13	[9 19]	[3 06]	8 50 <i>b</i>	5 44 <i>a</i>	[1.4]	[2.0]	[0.8]	4.4			20 31	4.0	1.3	1.8	2.0
14	[10 31]	[4 19]	9 25 <i>b</i>	5 35 <i>a</i>	[2.7]	[3.7]	[1.4]	7.0			19 52	5.6	2.5	3.4	2.0
15	6 00	12 15	4 39 <i>b</i>	12 24 <i>a</i>	3.7	4.3	3.1	6.6	0.8	4.4		4.5	3.4	3.9	2.0
16	6 35	0 23	5 29 <i>b</i>	0 30 <i>b</i>	5.6	6.4	4.7	9.0	0.9	5.5		5.6	4.7	5.3	2.0
17	4 40	10 55	3 16 <i>b</i>	11 04 <i>a</i>	3.4	3.9	2.9	6.2	0.7	4.3		4.3	3.2	3.8	1.5
18	0 33	6 46	1 29 <i>b</i>	6 59 <i>a</i>	1.6	1.9	1.4	3.5	0.5	2.9	19 38	3.0	1.8	2.2	1.5
19	1 20	7 32	— 0 01 <i>b</i>	7 41 <i>a</i>	3.7	4.2	3.1	6.6	0.8	4.4		4.5	3.4	3.8	2.5
20	2 20	8 32	1 19 <i>b</i>	8 38 <i>a</i>	6.5	7.5	5.5	10.2	1.0	5.9		6.0	5.3	6.0	2.5
21	5 50	12 00	4 18 <i>b</i>	12 08 <i>a</i>	2.9	3.3	2.4	5.4	0.7	3.9		4.0	2.8	3.2	2.5
22	1 45	7 57	0 48 <i>b</i>	8 03 <i>a</i>	7.8	9.0	6.6	11.9	1.1	6.4		6.6	6.1	6.8	2.5
23	2 20	8 32	1 15 <i>b</i>	8 39 <i>a</i>	5.0	5.7	4.2	8.4	0.9	5.2		5.3	4.3	4.9	3.0
24	2 00	8 10	1 02 <i>b</i>	8 16 <i>a</i>	7.7	8.8	6.5	11.8	1.1	6.4		6.5	6.1	6.8	2.5
25	5 00	11 12	3 47 <i>b</i>	11 19 <i>a</i>	4.1	4.7	3.4	7.1	0.8	4.7		4.7	3.7	4.2	2.5
26	5 00	11 10	3 36 <i>b</i>	11 18 <i>a</i>	3.4	3.9	2.9	6.2	0.7	4.3		4.3	3.2	3.7	2.5
27	4 50	11 00	3 41 <i>b</i>	11 07 <i>a</i>	5.1	5.8	4.3	8.5	0.9	5.2		5.3	4.4	4.9	2.0
28	6 30	0 20	6 40 <i>b</i>	11 56 <i>b</i>	3.0	3.6	2.4	5.0	2.5	1.4		2.9	2.1	2.2	2.0
29	5 54	0 18	5 57 <i>b</i>	0 18 <i>a</i>	7.5	8.6	6.4	9.6	3.4	0.5		3.4	4.3	5.3	2.0
30	6 05	0 04	6 15 <i>b</i>	11 40 <i>a</i>	3.2	4.4	1.8	4.7	2.3	0.5	19 05	2.4	1.7	1.9	2.0
31	7 10	1 10	7 35 <i>b</i>	3 15 <i>a</i>	3.6	5.0	1.8	5.3	2.5	1.1		2.4	1.9	2.3	2.0
32	6 06	— 0 04	5 38 <i>b</i>	0 20 <i>a</i>	4.4	6.1	2.5	5.5	1.6	0.6		1.7	2.5	2.5	2.0
33	6 17	0 03	5 14 <i>b</i>	10 48 <i>a</i>	4.7	6.6	2.8	5.9	2.1	0.4		2.2	2.6	2.8	2.0
34	6 00	12 15	7 10 <i>b</i>	13 45 <i>b</i>	5.2	7.0	3.4	6.6	1.9	0.7		2.0	2.9	3.0	2.0
35	[9 23]	[3 11]	7 36 <i>b</i>	7 57 <i>a</i>	[1.5]	[1.9]	[1.0]	2.7				2.5	1.0	1.3	2.0
36	6 50	0 42	6 58 <i>b</i>	2 06 <i>a</i>	3.3	3.8	2.8	5.4	3.5	0.3		3.5	2.1	2.4	2.0
37	9 25	3 15	9 32 <i>a</i>	3 31 <i>a</i>	3.5	4.2	2.8	5.1	3.0	0.6		4.0	2.0	2.3	1.5
38	11 27	5 01	9 38 <i>b</i>	5 31 <i>a</i>	2.6	3.4	1.4	4.9	3.0	1.6		3.4	2.0	2.1	1.5
39	8 05	1 55	8 11 <i>b</i>	2 03 <i>a</i>	5.0	6.0	4.0	6.5	3.0	1.0		4.6	2.6	2.9	1.5
40	6 20	0 10	6 25 <i>b</i>	1 10 <i>a</i>	6.3	7.2	5.4	9.2	4.8	0.5		4.8	3.8	5.2	1.5
41	[11 53]	[5 44]	10 50 <i>b</i>	6 50 <i>a</i>	[1.5]	[1.9]	[1.0]	4.9				4.0	1.6	2.2	2.0
42	[10 30]	[4 28]	9 30 <i>b</i>	5 30 <i>a</i>	[1.6]	[2.1]	[1.1]	5.5				4.2	1.8	2.4	1.5
43	[10 30]	[4 28]	9 30 <i>b</i>	5 30 <i>a</i>	[1.6]	[2.0]	[1.0]	5.2				4.2	1.8	2.3	1.5
44	[10 20]	[4 20]	9 30 <i>b</i>	5 00 <i>a</i>	[1.7]	[2.3]	[1.2]	5.8				4.3	1.9	2.6	1.5
45	[11 30]	[5 20]	10 50 <i>b</i>	4 40 <i>a</i>	[1.9]	[2.5]	[1.3]	6.5				4.6	2.0	3.1	1.5
46	11 34	5 21	11 09 <i>b</i>	6 26 <i>a</i>	3.4	4.2	1.9	6.2	3.7	2.6	21 11	4.4	2.4	2.9	1.5
47	11 30	5 07	10 58 <i>b</i>	6 11 <i>a</i>	3.6	4.7	2.0	6.6	3.4	2.6		4.3	2.6	3.1	1.5
48	11 21	4 32	10 32 <i>b</i>	5 45 <i>a</i>	2.7	3.4	1.6	5.5	3.3	2.3		3.9	2.1	2.5	1.5
49	11 38	5 28	12 26 <i>b</i>	6 42 <i>a</i>	4.1	5.2	2.5	7.6	4.0	2.9		4.8	3.3	3.5	1.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
MALAY OR EASTERN ARCHIPELAGO—Continued.											
PHILIPPINE ISLANDS—continued.											
Cebu, Leyte, and Samar Islands.											
		North.	East.				Time meridian 120° East.		Mean Lower Low Water.		
		°	°	h. m.			h. m.	h. m.	feet.	feet.	
1	Cebu, Cebu Island.....	10 18	123 53	8 16	Sydney.....	229	- 9 46	- 9 44	+0.2	+0.2	0.7
2	Ormoc, Leyte Island.....	11 00	124 36	8 18	Sydney.....	229	- 9 28	- 9 47	+0.8	+0.2	1.6
3	Maasin, Leyte Island.....	10 08	124 50	8 19	Sydney.....	229	-10 14	-10 13	0.0	+0.4	0.8
4	Tacloban, Leyte Island.....	11 15	125 00	8 20	Sydney.....	229	+10 21	+11 06	-2.1	-0.3	0.7
5	Santa Elena, San Juanico Strait.....	11 21	124 59	8 20	Sydney.....	229	-10 31	-10 54	-1.8	+0.1	0.6
6	Santa Rita, San Juanico Strait.....	11 26	124 57	8 20	Sydney.....	229	- 9 22	- 9 38	-0.4	-0.2	0.8
7	Catbalogan, Samar Island.....	11 46	124 53	8 20	Sydney.....	229	- 9 52	- 9 42	+0.4	+0.2	1.6
8	Calbayog, Samar Island.....	12 07	124 38	8 19	Sydney.....	229	- 9 36	- 9 42	-0.6	0.0	0.7
9	Laoang, Samar Island.....	12 35	125 01	8 20	Sydney.....	229	+ 9 50	+ 9 45	+0.7	+0.2	1.1
10	Gufuan, Samar Island.....	11 01	125 43	8 23	Sydney.....	229	+ 9 56	+ 9 25	-1.7	-0.3	0.9
Mindoro Island.											
11	Mangarin.....	12 20	121 04	8 04	Manila.....	209	+ 0 23	+ 0 20	-0.2	+0.6	0.8
12	Port Galera.....	13 31	120 58	8 04	Hongkong.....	197	+ 1 03	+ 1 01	-1.4	-0.4	0.7
Lesser Islands.											
13	Busuanga, Burias Island.....	13 02	123 14	8 13	Manila.....	209	+ 3 08	+ 0 05	+1.0	-0.1	1.5
14	Romblon, Romblon Island.....	12 35	122 15	8 09	Sydney.....	229	- 9 58	-10 04	-0.1	+0.1	0.9
15	Halsey Harbor, Culion Island.....	11 47	119 57	8 00	Manila.....	209	+ 0 04	+ 0 03	+0.5	0.0	1.1
Luzon Island.											
16	Balayan, Balayan Bay.....	13 56	120 44	8 03	Manila.....	209	+ 0 38	- 0 05	+0.5	+0.1	1.8
17	Mariveles, Entrance to Manila Bay.....	14 26	120 29	8 02	Manila.....	209	- 0 26	- 0 14	+0.1	+0.2	0.9
18	Corregidor I., Ent. to Manila Bay.....	14 24	120 34	8 02	Manila.....	209	- 0 22	- 0 09	0.0	0.0	1.4
19	MANILA, Pasig River Entrance.....	14 36	120 57	8 04	Manila.....	209	0 00	0 03	0.0	0.0	1.4
20	Olongapo, Subic Bay.....	14 50	120 16	8 01	Manila.....	209	- 0 27	- 0 04	-0.3	+0.1	0.9
21	Subic, Subic Bay.....	14 54	120 13	8 01	Manila.....	209	- 0 29	- 0 26	-0.4	0.0	0.9
22	Port Silanguin.....	14 48	120 07	8 00	Manila.....	209	- 0 47	- 0 29	-1.7	+0.4	0.8
23	Port Masinloc.....	15 31	119 55	8 00	Manila.....	209	- 0 29	- 0 12	-0.1	+0.3	0.9
24	Santa Cruz, Zambales.....	15 46	119 53	8 00	Manila.....	209	- 0 38	- 0 25	-0.7	+0.1	0.8
25	Bolinao, Gulf of Lingayen.....	16 24	119 56	8 00	Manila.....	209	- 1 01	- 0 27	-1.1	+0.1	0.9
26	Port Sual, Gulf of Lingayen.....	16 04	120 06	8 00	Manila.....	209	- 0 58	+ 0 16	-0.7	-0.2	0.9
27	Santo Tomas, Gulf of Lingayen.....	16 16	120 21	8 02	Manila.....	209	- 0 56	- 1 14	-0.9	+0.5	0.7
28	San Fernando, Gulf of Lingayen.....	16 37	120 18	8 01	Manila.....	209	- 1 05	- 0 33	-1.1	+0.1	0.7
29	Port Salomague.....	17 47	120 25	8 02	Manila.....	209	- 1 36	- 1 09	-1.3	+0.1	0.6
30	Laong River Entrance.....	18 13	120 31	8 02	Manila.....	209	- 1 46	- 1 39	-1.4	+0.1	0.6
31	Aparri, Cagayan River.....	18 22	121 37	8 06	Apia.....	217	- 0 54	- 0 46	+0.1	0.0	2.4
32	Camalaniugan, Cagayan River.....	18 17	121 38	8 07	Apia.....	217	- 0 44	- 0 37	+0.2	+0.1	1.4
33	Port San Pio V, Camiguin Island.....	18 50	121 50	8 07	Nagasaki.....	181	- 2 16	- 2 20	-2.7	-0.3	0.9
34	Alabat Island, Lamon Bay.....	14 08	121 52	8 07	Nagasaki.....	181	- 0 46	- 0 50	+0.1	+0.1	1.0
35	Tabaco, Tabaco Bay.....	13 22	123 44	8 15	Nagasaki.....	181	- 2 26	- 2 22	-2.8	-0.4	0.5
36	Legaspi, Gulf of Albay.....	13 09	123 45	8 15	Nagasaki.....	181	- 2 30	- 2 31	-2.4	-0.4	0.8
POLYNESIA.											
NORTH PACIFIC GROUPS.											
Bonin or Arzobispo Islands.											
37	Newport, Hillsboro Island.....	26 36	142 09	9 29	Honolulu.....	213	+ 6 59	+ 6 57	+1.1	+0.1	1.5
38	Port Lloyd, Peel Island.....	27 05	142 12	9 29	Honolulu.....	213	+ 1 39	+ 1 42	+0.9	+0.1	1.6
Marianas or Ladrone Islands.											
39	Guam or Guajan Island.....	13 26	144 39	9 39	Honolulu.....	213	+ 2 49	+ 3 02	+0.9	-0.1	1.7
40	Saipan Island.....	15 19	145 44	9 43	Honolulu.....	213	+ 2 29	+ 2 32	+0.5	+0.1	1.8
Caroline Islands.											
41	Tomil Bay, Yap or Uap Island.....	9 33	138 05	9 12	Honolulu.....	213	+ 2 45	+ 2 43	+1.6	0.0	2.9
42	Kiti Harbor, Ponapi Island.....	6 47	158 08	10 33	Honolulu.....	213	- 0 33	- 0 30	+2.4	+0.2	2.9
43	Kusaie or Uaian Island.....	5 20	163 05	10 52	Honolulu.....	213	+ 1 26	+ 1 29	+1.7	+0.1	2.9
Marshall Islands.											
44	Kijalein Island.....	8 40	167 45	11 11	Honolulu.....	213	- 0 34	- 0 31	+2.7	+0.4	2.9
45	Ebon Atoll, or Boston Island.....	4 35	168 40	11 15	Honolulu.....	213	+ 0 10	+ 0 13	+3.1	+0.5	3.2
46	Alluk Island.....	10 25	170 00	11 20	Honolulu.....	213	+ 0 15	+ 0 13	+4.3	+0.5	4.3
47	Port Rhin, Mulgrave Islands.....	6 14	171 45	11 27	Honolulu.....	213	+ 0 26	+ 0 28	+3.3	+0.5	3.9
Gilbert Islands.											
48	Aparama or Hopper Island.....	0 30	173 55	11 36	Honolulu.....	213	- 0 05	- 0 02	+3.1	+0.5	3.2
49	Apalang or Charlotte Island.....	1 50	172 50	11 31	Honolulu.....	213	+ 0 10	+ 0 13	+3.1	+0.5	3.2
Detached islands.											
50	Midway Islands.....	28 13	177 21	11 49	Honolulu.....	213	- 0 41	- 0 15	-0.2	+0.1	0.7
51	Howland Island.....	0 53	176 35	11 46	Honolulu.....	213	+ 3 23	+ 3 26	+4.3	+0.5	4.3
52	Palmyra Island.....	5 50	162 10	10 49	Honolulu.....	213	+ 1 37	+ 1 40	+0.2	+0.2	1.0
53	Fanning Island.....	3 50	159 20	10 37	Honolulu.....	213	+ 2 11	+ 2 14	+1.0	+0.3	1.6
54	Christmas Island.....	1 55	157 20	10 29	Honolulu.....	213	+ 0 36	+ 0 37	+1.0	+0.3	1.6

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i>
1	11 32	5 21	10 56b	6 20a	3.3	4.7	1.7	5.7	3.3	2.2	21 19	4.0	2.3	2.6	1.5
2	11 52	5 20	11 00b	6 18a	4.0	5.0	3.0	5.8	3.0	2.0	21 19	4.0	2.6	3.2	1.5
3	11 07	4 55	11 16b	6 29a	3.0	3.5	2.5	4.7	3.0	0.3	21 19	3.0	2.3	2.4	1.5
4	6 53	1 25	7 05b	3 39a	1.6	2.1	1.1	2.6	2.2	0.2	19 44	2.2	0.9	1.0	1.0
5	10 51	4 15	10 08b	5 12a	1.5	2.1	0.8	3.4	1.8	0.5	20 03	2.8	1.3	1.6	1.0
6	12 00	5 31	11 17b	6 28a	2.9	4.0	1.2	4.8	2.4	1.9	21 28	3.2	2.0	2.3	1.0
7	11 50	5 27	11 12b	6 20a	3.6	4.8	1.9	5.7	2.9	2.1	21 25	3.7	2.4	2.7	1.0
8	11 45	5 26	11 11b	6 30a	2.7	3.9	1.1	4.5	2.6	1.5	21 50	3.1	1.8	2.0	1.0
9	6 22	0 04	5 46b	0 03a	3.9	5.1	2.7	4.8	0.4	1.5	21 50	1.6	2.5	2.7	1.0
10	6 31	12 12	6 36b	12 11a	2.0	2.6	1.3	2.8	1.2	0.3	21 50	1.2	1.1	1.2	1.5
11	[10 32]	[4 25]	10 01b	6 26a	[2.5]	[3.1]	[1.6]	3.6	2.8	2.0	21 50	3.0	1.6	1.8	1.0
12	11 00	4 25	10 13b	5 49a	2.2	2.8	1.3	4.6	2.8	2.0	21 50	3.5	1.8	2.4	1.0
13	[4 30]	[10 20]	0 30a	6 20a	[1.6]	[2.1]	[1.1]	5.5	3.0	1.9	21 50	4.2	1.8	2.4	1.0
14	11 13	4 54	10 46b	6 06a	3.2	4.2	1.9	5.4	3.0	1.9	21 50	3.6	2.1	2.5	1.0
15	[10 40]	[4 19]	9 38b	6 05a	[1.6]	[2.3]	[0.9]	4.9	3.0	1.9	21 50	4.0	1.6	2.3	1.5
16	[10 45]	[4 20]	10 15b	6 00a	[2.2]	[2.8]	[1.3]	4.8	3.0	1.9	21 50	4.0	1.7	2.3	1.0
17	[10 19]	[3 53]	9 10b	5 50a	[1.3]	[1.7]	[0.8]	4.3	3.0	1.9	21 50	3.8	1.5	1.9	1.0
18	[10 22]	[3 56]	9 14b	5 55a	[1.2]	[1.6]	[0.8]	4.4	3.0	1.9	21 50	3.9	1.4	2.0	1.0
19	[10 42]	[4 13]	9 38b	6 06a	[1.4]	[1.8]	[0.9]	4.4	3.0	1.9	21 50	3.9	1.4	2.0	1.0
20	[10 07]	[3 55]	9 08b	5 59a	[1.2]	[1.6]	[0.8]	4.0	3.0	1.9	21 50	3.5	1.3	1.8	1.0
21	[10 05]	[3 34]	9 06b	5 37a	[1.2]	[1.6]	[0.8]	4.0	3.0	1.9	21 50	3.5	1.3	1.4	1.0
22	[9 43]	[3 33]	8 47b	5 33a	[0.8]	[0.9]	[0.7]	2.3	3.0	1.9	21 50	1.8	0.7	1.0	1.0
23	[10 05]	[3 50]	9 06b	5 50a	[1.2]	[1.6]	[0.8]	4.0	3.0	1.9	21 50	3.5	1.5	2.0	1.0
24	[9 56]	[3 40]	8 56b	5 37a	[1.1]	[1.4]	[0.8]	3.6	3.0	1.9	21 50	3.3	1.1	1.7	0.5
25	[9 50]	[3 35]	8 33b	5 35a	[0.9]	[1.2]	[0.6]	3.2	3.0	1.9	21 50	3.1	0.9	1.6	0.5
26	[10 20]	[3 33]	8 36b	6 18a	[0.9]	[1.2]	[0.6]	3.9	3.0	1.9	21 50	3.6	0.9	1.4	0.5
27	[10 00]	[3 45]	8 40b	5 50a	[1.0]	[1.2]	[0.7]	3.3	3.0	1.9	21 50	3.1	1.0	1.6	0.5
28	[9 45]	[3 30]	8 30b	5 30a	[0.9]	[1.2]	[0.6]	3.2	3.0	1.9	21 50	2.9	0.9	1.5	0.5
29	[9 05]	[2 55]	8 00b	4 55a	[0.8]	[1.0]	[0.6]	3.0	3.0	1.9	21 50	2.8	0.8	1.3	0.5
30	[8 50]	[2 40]	7 50b	4 25a	[0.7]	[0.9]	[0.5]	2.9	3.0	1.9	21 50	2.8	0.7	1.2	0.0
31	6 18	0 13	5 32b	0 42a	2.7	3.2	2.0	3.8	1.0	1.2	21 50	1.6	1.6	1.9	0.0
32	6 29	0 23	5 43b	0 52a	2.7	3.3	2.0	3.9	1.0	1.3	21 50	1.6	1.7	2.0	0.0
33	6 00	0 12	5 15b	0 03a	3.8	5.0	2.7	5.5	1.1	2.0	21 50	2.2	2.6	3.1	0.5
34	7 30	1 18	6 53b	1 45a	6.2	8.1	4.3	8.3	1.4	2.5	21 50	2.9	4.2	4.6	1.0
35	5 58	12 19	5 28b	0 03a	3.9	5.1	2.2	6.0	0.7	1.8	18 27	1.9	2.5	2.6	1.0
36	5 54	12 10	5 33b	0 00a	4.2	5.4	2.9	5.6	0.8	1.8	21 50	2.0	2.7	3.0	1.0
37	11 30	5 15	11 39a	4 18a	2.2	2.8	1.6	3.6	2.0	0.4	21 50	2.0	2.4	1.4	West.
38	6 10	0 00	6 20a	1 03a	1.9	2.4	1.4	3.1	1.9	0.4	21 50	1.9	2.1	1.2	1.5
39	7 20	1 20	7 30a	0 22a	2.0	2.6	1.5	3.6	3.0	0.5	21 50	3.1	2.4	1.5	2.5
40	7 00	0 50	7 11a	0 17a	1.6	2.0	1.1	2.6	1.7	0.3	21 50	1.7	1.8	1.0	2.5
41	7 15	1 00	7 24a	0 06a	2.7	3.4	1.9	4.0	2.2	0.4	21 50	2.3	2.8	1.6	2.0
42	4 00	10 15	4 07a	9 28b	3.4	4.3	2.4	4.9	2.5	0.5	21 50	2.5	3.3	2.1	6.5
43	6 00	12 15	6 08a	11 23b	2.8	3.5	2.0	4.2	2.3	0.4	21 50	2.3	2.8	1.7	7.5
44	4 00	10 15	4 08a	9 29b	3.5	4.4	2.5	5.0	2.5	0.5	21 50	2.6	2.3	2.1	8.0
45	4 45	11 00	4 52a	10 15b	3.8	4.7	2.7	5.4	2.6	0.5	21 50	2.7	2.5	2.3	8.5
46	4 50	11 00	4 56a	10 21b	5.0	6.2	3.6	6.8	3.0	0.6	21 50	3.1	3.1	2.9	8.5
47	5 00	11 15	5 07a	10 32b	4.0	5.0	2.8	5.6	2.7	0.5	21 50	2.7	2.6	2.4	8.5
48	4 30	10 45	4 37a	10 00b	3.8	4.7	2.7	5.4	2.6	0.5	21 50	2.7	2.5	2.3	9.0
49	4 45	11 00	4 52a	10 15b	3.8	4.7	2.7	5.4	2.6	0.5	21 50	2.7	2.5	2.3	9.0
50	3 06	9 43	2 31a	8 58b	0.9	1.1	0.6	1.4	0.1	0.8	21 50	0.8	0.7	0.9	10.5
51	7 10	1 00	7 16a	0 21a	5.0	6.2	3.6	6.8	3.0	0.6	21 50	3.1	3.1	2.9	8.5
52	5 25	11 40	5 37a	10 21b	1.2	1.5	0.9	2.1	1.5	0.3	21 50	1.5	0.9	0.8	8.0
53	6 00	12 15	6 10a	11 12b	1.9	2.4	1.4	3.1	1.9	0.4	21 50	1.9	1.4	1.2	7.5
54	4 25	10 38	4 35a	9 35b	1.9	2.4	1.4	3.1	1.9	0.4	21 50	1.9	1.4	1.2	7.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.		Standard port for reference.		Tidal differences.				Rel. of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.		LW.
POLYNESIA—Continued.											
NORTH PACIFIC GROUPS—cont'd.											
Hawaiian or Sandwich Islands.											
		North.	West.				Time meridian, 157° 30' W.		Mean Low Water.		
		°	°	h. m.			h. m.	h. m.	feet.	feet.	
1	Eleele, Hanapepe Bay, Kauai I.....	21 54	159 35	10 38	Honolulu.....	213	- 0 51	+ 1 28	-0.2	0.0	0.8
2	HONOLULU, Oahu Island.....	21 18	157 52	10 31	Honolulu.....	213	0 00	0 00	0.0	0.0	1.4
3	Kaunakakai, Molokai Island.....	21 05	157 02	10 28	Honolulu.....	213	- 1 13	- 1 07	+0.5	+0.1	1.4
4	Kahului, Maui Island.....	20 54	156 29	10 26	Honolulu.....	213	- 1 45	- 1 45	+0.6	+0.2	1.4
5	Kihel, Maalaea B., Maui Island.....	20 47	156 28	10 26	Honolulu.....	213	- 0 10	- 0 27	+0.7	+0.3	1.8
6	Lahaina, Maui Island.....	20 50	156 40	10 27	Honolulu.....	213	- 0 20	- 0 06	+0.7	+0.2	1.4
7	Kealahou, Hawaii Island.....	19 28	155 56	10 24	Honolulu.....	213	- 0 45	- 0 47	+0.1	0.0	1.4
8	Hilo, Hawaii Island.....	19 44	155 05	10 20	Honolulu.....	213	- 0 50	- 1 05	+0.8	+0.2	1.4
SOUTH PACIFIC GROUPS.											
Detached islands.											
		South.					Local time.		Mean Low Water Springs.		
9	Sala y Gomez Island.....	26 19	105 26	7 02	Apia.....	217	+ 9 51	+ 9 54	0.0	0.0	1.4
10	Easter Island.....	27 10	109 21	7 17	Apia.....	217	+ 6 32	+ 6 33	-0.4	0.0	0.8
11	Rapa or Oparo Island.....	27 37	144 19	9 37	Apia.....	217	+ 6 06	+ 6 09	-0.8	0.0	0.7
12	Caroline Atoll.....	10 00	150 15	10 01	Apia.....	217	+ 9 57	+ 9 59	-1.8	-0.2	0.7
13	Tonga-rewa or Penrhyn Island.....	9 00	157 53	10 32	Apia.....	217	- 0 27	- 0 24	-1.5	-0.1	0.7
14	Suvarof Island.....	13 13	163 12	10 53	Apia.....	217	+ 9 09	+ 9 10	-0.8	0.0	0.7
15	Uea, Uvea, or Wallis Island.....	13 24	176 08	11 45	Apia.....	217	+ 0 16	+ 0 17	+1.1	+0.1	1.4
Tuamotu or Low Archipelago.											
16	Gambier or Mangareva Island.....	23 05	135 00	9 00	Apia.....	217	- 4 40	- 4 39	-0.8	0.0	0.7
17	Bow, Harpe, or Hao Island.....	18 20	140 45	9 23	Apia.....	217	- 3 49	- 3 46	-0.8	0.0	0.7
18	Naiasa or Rangiroa Island.....	14 58	147 52	9 51	Apia.....	217	- 1 58	- 1 57	-1.0	-0.2	0.7
Marquesas Islands.											
19	Santa Christina or Taou-ata Island.....	9 55	139 08	9 17	Apia.....	217	- 3 59	- 3 56	0.0	0.0	1.8
20	Tai-o-hae B., Nouka Hiva Island.....	8 52	140 00	9 20	Apia.....	217	- 2 39	- 2 36	+0.3	+0.1	1.8
Society Islands.											
21	Tahiti or Otaheite Island.....	17 30	149 30	9 58	Apia.....	217	- 6 53	- 6 52	-2.0	-0.2	0.7
22	Borabora or Bolabola Island.....	16 30	151 45	10 07	Apia.....	217	- 6 43	- 6 40	-1.6	-0.2	0.4
Tubuai or Austral Islands.											
23	Tubuai Island.....	23 25	149 33	9 58	Apia.....	217	- 3 28	- 3 27	-0.8	0.0	0.7
Cook or Hervey Islands.											
24	Rarotonga Island.....	21 15	159 40	10 39	Apia.....	217	- 0 27	- 0 24	-0.4	0.0	1.4
Phoenix Islands.											
25	Enderbury Island.....	3 09	171 11	11 25	Apia.....	217	- 1 25	- 1 22	+1.2	+0.2	1.4
Tokelau or Union Islands.											
26	Fakaofu or Bowditch Island.....	9 25	171 15	11 25	Apia.....	217	- 0 25	- 0 24	-0.8	0.0	0.7
Samoa or Navigator Islands.											
27	APIA, Upolu Island.....	13 50	171 44	11 27	Apia.....	217	0 00	0 00	0.0	0.0	1.4
28	Pango Pango, Tutuila Island.....	14 17	170 42	11 23	Apia.....	217	+ 0 35	+ 0 33	-0.4	0.0	0.8
29	Manua Island.....	14 15	169 30	11 18	Apia.....	217	- 0 25	- 0 24	+1.2	+0.2	1.4
Tonga or Friendly Islands.											
30	Vavau Island.....	18 34	173 58	11 36	Apia.....	217	- 0 05	- 0 02	+0.6	0.0	1.4
31	Namuka Island.....	20 15	174 46	11 39	Apia.....	217	+ 1 25	+ 1 23	0.0	0.0	1.4
32	Tongatabu Harbor.....	21 00	175 10	11 41	Apia.....	217	- 0 05	- 0 02	+0.6	0.0	1.4
Fiji Islands.											
			East.								
33	Vatou or Turtle Island.....	19 49	181 46	12 07	Apia.....	217	- 1 04	- 1 01	0.0	0.0	1.4
34	Mango Island.....	17 25	180 50	12 03	Apia.....	217	- 1 04	- 1 01	0.0	0.0	0.9
35	Totoya Island.....	18 56	180 10	12 01	Apia.....	217	- 0 39	- 0 41	+0.3	+0.1	1.4
36	Savu Savu Bay, Vanua Levu Island.....	16 43	179 15	11 57	Apia.....	217	- 1 14	- 1 13	+1.0	+0.2	1.4
37	Suva Harbor, Viti Levu Island.....	18 08	178 26	11 54	Apia.....	217	- 0 44	- 0 46	+0.4	0.0	1.4
38	Ngaloa Bay, Kandavu Island.....	19 02	178 15	11 53	Apia.....	217	- 0 34	- 0 36	+0.7	+0.1	1.4
Detached Islands.											
39	Rotumah Island.....	12 30	177 02	11 48	Apia.....	217	- 0 58	- 1 00	+0.9	-0.1	1.4
40	North Minerva Reef.....	23 36	181 06	12 04	Apia.....	217	+ 0 36	+ 0 34	+2.2	-0.2	1.4
Kermadec Islands.											
41	Raoul or Sunday Island.....	29 13	182 15	12 09	Auckland.....	225	+11 22	+11 37	-5.2	-0.6	0.8

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	2 50	11 21	3 01a	10 00b	1.0	1.3	0.7	1.8	1.3	0.3		1.3	0.6	0.7	10.5
2	3 48	10 00	4 00a	8 38b	1.2	1.5	0.8	2.0	1.5	0.3	4 31	1.5	0.7	0.8	10.5
3	2 38	8 56	2 49a	7 49b	1.6	2.1	1.1	3.2	2.4	0.3		2.4	1.0	1.1	10.0
4	2 08	8 20	2 18a	7 18b	1.7	2.2	1.2	3.3	2.5	0.4		2.5	1.1	1.2	10.0
5	3 43	9 38	3 53a	8 36b	1.6	2.1	1.1	3.2	2.4	0.3		2.4	1.2	1.3	10.0
6	3 32	9 58	3 32a	8 56b	1.7	2.2	1.2	3.3	2.5	0.4		2.5	1.1	1.1	10.0
7	3 10	9 20	3 20a	8 18b	1.3	1.6	0.9	2.2	1.5	0.3		1.6	0.8	0.9	10.0
8	3 09	9 06	3 20a	8 04b	1.8	2.3	1.3	3.4	2.6	0.4		2.6	1.2	1.2	10.0
9	4 00	10 15	3 59a	10 25b	2.7	3.3	2.0	2.8	0.4	0.1		0.4	1.6	1.3	16.5
10	0 40	6 53	0 38a	7 04b	2.3	2.8	1.7	2.4	0.4	0.1		0.4	1.4	1.1	16.0
11	0 10	6 25	0 09a	6 35b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	11.0
12	4 00	10 14	3 58a	10 28b	0.9	1.1	0.7	0.9	0.2	0.0		0.2	0.6	0.9	8.0
13	6 00	12 15	5 58a	12 31b	1.2	1.5	0.9	1.2	0.3	0.0		0.3	0.8	0.5	8.0
14	3 10	9 23	3 09a	9 33b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	9.0
15	6 40	0 28	6 39a	0 35a	3.6	4.4	2.7	3.7	0.4	0.1		0.4	2.2	1.7	9.5
16	1 50	8 03	1 49b	8 13b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	10.5
17	2 40	8 55	2 39b	9 05b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	9.5
18	4 30	10 43	4 38b	10 56b	1.7	2.1	1.3	1.7	0.3	0.1		0.3	1.0	0.8	9.0
19	2 30	8 45	2 29b	8 55b	2.5	3.1	1.9	2.6	0.4	0.1		0.4	1.6	1.2	8.0
20	3 50	10 05	3 49b	10 14b	2.8	3.5	2.1	2.9	0.4	0.1		0.4	1.8	1.4	8.0
21	12 00	5 48	11 58a	6 04b	0.8	1.0	0.6	0.8	0.2	0.0		0.2	0.5	0.3	9.5
22	12 10	6 00	12 08a	6 12b	1.1	1.4	0.8	1.1	0.2	0.0		0.2	0.7	0.5	9.0
23	3 00	9 13	2 59b	9 23b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	10.0
24	6 00	12 16	5 59b	12 24b	2.2	2.7	1.7	2.2	0.3	0.1		0.3	1.4	1.1	10.0
25	5 00	11 15	4 59b	11 22b	3.7	4.6	2.7	3.8	0.4	0.1		0.4	2.3	1.8	8.5
26	6 00	12 13	5 59b	12 23b	1.9	2.4	1.4	1.9	0.3	0.1		0.3	1.2	0.9	9.0
27	6 25	0 12	6 22b	0 20a	2.6	3.2	2.0	2.7	0.3	0.1	17 10	0.3	1.6	1.3	9.5
28	7 00	0 45	6 59b	0 54a	2.2	2.7	1.6	2.2	0.3	0.1		0.3	1.4	1.1	9.5
29	6 00	12 13	5 59b	12 20b	3.7	4.6	2.7	3.7	0.4	0.1		0.4	2.3	1.8	9.5
30	6 20	0 10	6 19b	0 18a	3.1	3.8	2.3	3.1	0.4	0.1		0.4	1.9	1.5	10.0
31	7 50	1 35	7 49b	1 45a	2.6	3.2	2.0	2.6	0.4	0.1		0.4	1.6	1.3	10.5
32	6 20	0 10	6 19b	0 18a	3.1	3.8	2.3	3.1	0.4	0.1		0.4	1.9	1.5	11.0
33	6 10	0 00	6 09b	0 10a	2.5	3.1	1.9	2.5	0.4	0.1		0.4	1.6	1.2	10.5
34	6 10	0 00	6 09b	0 10a	2.5	3.1	1.9	2.5	0.4	0.1		0.4	1.6	1.2	10.0
35	6 35	0 20	6 34b	0 29a	2.8	3.5	2.1	2.8	0.4	0.1		0.4	1.8	1.4	10.5
36	6 00	12 13	5 59b	12 20b	3.5	4.3	2.6	3.5	0.4	0.1		0.4	2.2	1.7	10.0
37	6 30	0 15	6 29b	0 24a	2.9	3.6	2.2	2.9	0.4	0.1		0.4	1.8	1.4	10.5
38	6 40	0 25	6 39b	0 33a	3.2	4.0	2.4	3.2	0.4	0.1		0.4	2.0	1.6	10.5
39	6 15	0 00	6 14b	0 08a	3.4	4.2	2.5	3.5	0.4	0.1		0.4	2.1	1.7	9.5
40	7 50	1 35	7 49b	1 42a	4.5	5.5	3.3	4.6	0.5	0.1		0.5	2.8	2.2	11.5
41	6 00	12 13	6 02b	12 09b	3.0	3.8	2.7	3.3	0.3	0.2		0.3	1.6	1.6	12.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
AUSTRALASIA.											
NEW ZEALAND.											
Stewart Island.											
		South.	East.				Time meridian, 172° 30' East.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Port Adventure	47 04	168 12	11 13	Auckland	225	+5 40	+6 00	-0.9	-0.1	0.9
2	Port Pegasus	47 13	167 43	11 11	Auckland	225	+5 05	+5 20	-0.8	-0.2	0.9
3	Mason Bay	46 56	167 45	11 11	Auckland	225	-5 30	-5 20	-1.1	-0.3	0.9
4	Paterson Inlet	46 57	168 09	11 13	Auckland	225	-5 40	-5 30	-0.9	-0.2	0.9
South Island.											
5	Akaroa Harbor	43 45	172 46	11 31	Auckland	225	-3 40	-2 55	-1.3	-0.2	0.9
6	Timaru	44 23	171 18	11 25	Auckland	225	-3 20	-3 20	-2.3	-0.4	0.7
7	Oamaru	45 06	171 01	11 24	Auckland	225	-3 45	-3 15	-2.7	-0.4	0.7
8	Otago Harbor Entrance	45 46	170 44	11 23	Auckland	225	-3 45	-3 25	-2.9	-0.2	0.6
9	Port Chalmers, Otago Harbor	45 49	170 39	11 23	Auckland	225	-3 20	-2 40	-3.0	-0.4	0.6
10	Dunedin, Otago Harbor	45 53	170 32	11 22	Auckland	225	-2 50	-1 20	-3.1	-0.3	0.6
11	Molyneux Bay	46 23	169 38	11 19	Auckland	225	-4 00	-3 40	-0.9	-0.2	0.7
12	Waikawa Harbor	46 39	169 09	11 17	Auckland	225	-4 28	-4 16	-1.1	-0.2	0.8
13	Ruapuke Island, Foveaux Strait	46 38	168 33	11 14	Auckland	225	+6 00	-5 40	-1.1	-0.3	0.9
14	Awarui or Bluff Harbor	46 36	168 22	11 13	Auckland	225	-4 50	-4 20	-0.9	-0.2	0.9
15	New River	46 29	168 19	11 13	Auckland	225	-5 50	-5 30	-0.9	-0.1	0.9
16	Center Island, Foveaux Strait	46 28	167 52	11 10	Auckland	225	+5 30	+5 30	-1.1	-0.2	0.8
17	Preservation Inlet	46 08	166 37	11 06	Auckland	225	+4 25	+4 50	-1.2	-0.2	0.7
18	Dusky Sound	45 46	166 33	11 06	Auckland	225	+4 28	+4 45	+0.8	-0.2	1.1
19	Bligh Sound	44 50	167 32	11 10	Auckland	225	+4 04	+4 21	-0.8	-0.2	0.9
20	Milford Sound	44 36	167 49	11 11	Auckland	225	+4 01	+4 17	-0.9	-0.1	0.9
21	Jackson Bay	43 59	168 38	11 15	Auckland	225	+4 25	+4 30	-0.7	0.0	0.9
22	Haast River Entrance	43 50	169 04	11 16	Auckland	225	+4 20	+4 30	-0.9	-0.2	0.9
23	Bruce Bay	43 35	169 36	11 18	Auckland	225	+3 45	+4 02	-1.3	-0.2	0.8
24	Okarito Lagoon	43 17	170 18	11 21	Auckland	225	+3 45	+4 05	-3.5	-0.4	0.6
25	Hokitika Bar	42 42	170 59	11 24	Auckland	225	+3 40	+4 10	+0.7	-0.1	1.0
26	Greymouth, Grey River	42 27	171 13	11 25	Auckland	225	+3 55	+4 15	+0.9	-0.2	1.0
27	Westport, Buller River	41 46	171 38	11 27	Auckland	225	+3 30	+4 00	+0.5	-0.2	1.0
28	Wanganui Inlet	40 35	172 33	11 30	Auckland	225	+2 28	+2 45	-1.7	-0.3	0.9
29	Mutupipi River, West Entrance	40 48	172 49	11 31	Auckland	225	+2 20	+1 41	+4.9	+0.1	1.6
30	Astrolabe	40 58	173 06	11 32	Auckland	225	+2 20	+2 40	+4.7	+0.4	1.7
31	Nelson	41 15	173 17	11 33	Auckland	225	+2 30	+2 35	+3.0	0.0	1.3
32	Croisilles Harbor	41 03	173 42	11 35	Auckland	225	+2 43	+3 00	+2.8	0.0	1.3
33	Port Hardy	40 42	173 56	11 36	Auckland	225	+2 37	+2 54	+2.7	0.0	1.3
34	Rangitoto Road	40 48	174 01	11 36	Auckland	225	+1 10	+1 23	-1.3	-0.2	0.8
35	Pelorus Sound Entrance	40 52	174 10	11 37	Auckland	225	+2 16	+2 33	+1.9	0.0	1.5
36	Queen Charlotte Sound Entrance	41 04	174 21	11 37	Auckland	225	+1 41	+1 48	-0.9	-0.2	0.9
37	Pictou Harbor	41 18	174 03	11 36	Wellington	221	+3 43	+3 57	+1.6	0.0	1.4
38	Port Underwood	41 23	174 10	11 37	Wellington	221	+1 10	+1 23	+3.8	+0.2	2.1
39	Cape Campbell	41 44	174 19	11 37	Wellington	221	+1 00	+1 10	+3.8	+0.2	2.0
40	Kaikoura Peninsula	42 28	173 44	11 35	Wellington	221	-0 23	-0 10	+2.3	+0.1	1.6
41	Port Lyttelton	43 35	172 50	11 31	Wellington	221	-0 18	0 00	+2.5	+0.1	1.7
North Island.											
42	East Cape	37 40	178 32	11 54	Wellington	221	+2 10	+2 10	+3.0	+0.2	1.8
43	Poverty Bay	38 42	178 01	11 52	Wellington	221	+1 25	+1 38	+1.8	+0.2	1.5
44	Clyde (Waioa River)	39 02	177 26	11 50	Wellington	221	+1 30	+1 40	+3.1	+0.1	1.9
45	Napier (Ahuriri Harbor)	39 29	176 55	11 48	Wellington	221	+1 04	+1 12	0.0	0.0	0.9
46	Cape Palliser	41 38	175 15	11 41	Wellington	221	-0 14	-0 06	+2.0	0.0	1.5
47	WELLINGTON, Port Nicholson	41 17	174 46	11 39	Wellington	221	0 00	0 00	0.0	0.0	1.0
48	Porirua Harbor	41 04	174 51	11 39	Wellington	221	+1 58	+2 11	+4.0	-0.2	2.1
49	Manawatu River	40 29	175 13	11 41	Wellington	221	+5 50	+5 50	+2.6	+0.2	1.7
50	Wanganui River	39 58	175 00	11 40	Wellington	221	+5 15	+5 25	+3.2	+0.2	1.9
51	Opunake Bay	39 29	173 52	11 35	Auckland	225	+2 18	+2 35	-0.1	0.0	0.9
52	New Plymouth (Taranaki)	39 05	174 05	11 36	Auckland	225	+2 20	+2 30	+2.5	+0.2	1.3
53	Mokau River	38 42	174 38	11 39	Auckland	225	+3 05	+3 45	+2.9	+0.2	1.5
54	Kawhia Harbor	38 04	174 50	11 39	Auckland	225	+2 10	+2 15	+2.8	+0.2	1.5
55	Whaingaroa Harbor	37 47	174 53	11 40	Auckland	225	+2 45	+2 10	+3.1	+0.2	1.5
56	Waikato River	37 24	174 47	11 39	Auckland	225	+1 57	+2 11	+3.0	+0.2	1.3
57	Manukau Harbor Entrance	37 03	174 32	11 38	Auckland	225	+2 30	+2 40	+3.4	+0.2	1.5
58	Manukau Waioa Channel	37 04	174 31	11 38	Auckland	225	+3 00	+3 10	+4.7	+0.4	1.5
59	Onehunga Wharf	36 56	174 49	11 39	Auckland	225	+3 30	+3 50	+4.7	+0.4	1.5
60	Kaipara Harbor Entrance	36 23	174 10	11 37	Auckland	225	+3 20	+3 30	+0.9	0.0	1.1
61	Hokianga River Entrance	35 34	173 19	11 33	Auckland	225	+3 00	+3 10	+0.2	0.0	1.0
62	Cape Maria Van Diemen	34 30	172 39	11 31	Auckland	225	+1 20	+1 40	-2.0	-0.2	0.7
63	Parengarenga	34 31	173 02	11 32	Auckland	225	+0 41	+0 58	-1.9	-0.2	0.7
64	Rangauu or Awanui River	34 52	173 19	11 33	Auckland	225	+0 35	+0 52	-1.7	-0.1	0.7
65	Whangaroa Harbor	35 06	173 46	11 35	Auckland	225	+0 50	+0 50	-2.4	-0.2	0.7

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	12 24	6 17	12 27 ^b	6 14 ^b	6.9	8.1	5.6	7.2	0.5	0.5	.....	0.6	4.0	3.6	18.5
2	11 47	5 35	11 48 ^b	5 31 ^b	7.1	7.9	6.2	7.2	0.5	0.1	.....	0.5	4.0	3.6	18.5
3	1 12	7 20	1 13 ^a	7 16 ^b	6.9	7.7	6.1	7.0	0.5	0.1	.....	0.5	3.8	3.4	18.5
4	1 04	7 12	1 05 ^a	7 08 ^b	7.0	7.8	6.2	7.1	0.5	0.1	.....	0.5	3.9	3.5	18.5
5	3 23	10 06	3 24 ^a	10 02 ^b	6.6	7.4	5.8	6.7	0.5	0.1	.....	0.5	3.7	3.3	17.5
6	3 37	9 35	3 38 ^a	9 32 ^b	5.8	6.5	5.1	5.9	0.4	0.1	.....	0.4	3.2	2.9	17.5
7	3 10	9 38	3 11 ^a	9 34 ^b	5.4	6.0	4.8	5.5	0.4	0.1	.....	0.4	3.0	2.7	18.0
8	3 09	9 27	3 14 ^a	9 23 ^b	5.0	5.8	4.0	5.2	0.4	0.4	.....	0.5	2.9	2.6	18.5
9	3 34	10 12	3 35 ^a	10 08 ^b	5.0	5.6	4.4	5.1	0.4	0.1	4 52	0.4	2.8	2.5	18.5
10	4 03	11 31	4 04 ^a	11 27 ^b	4.9	5.5	4.3	5.0	0.4	0.1	.....	0.4	2.8	2.4	18.5
11	2 50	9 08	2 51 ^a	9 04 ^b	7.0	7.8	6.2	7.1	0.5	0.1	.....	0.5	3.9	3.5	18.5
12	2 20	8 30	2 21 ^a	8 26 ^b	6.8	7.6	6.0	6.9	0.5	0.1	.....	0.5	3.8	3.4	18.5
13	0 20	7 03	0 21 ^a	6 59 ^b	6.9	7.7	6.1	7.0	0.5	0.1	.....	0.5	3.8	3.4	18.5
14	1 54	8 22	1 55 ^a	8 18 ^b	7.0	7.8	6.2	7.1	0.5	0.1	.....	0.5	3.9	3.5	18.5
15	0 54	7 12	0 57 ^a	7 09 ^b	6.9	8.1	5.6	7.2	0.5	0.5	.....	0.6	4.0	3.6	18.5
16	12 11	5 44	12 12 ^b	5 40 ^b	6.8	7.6	6.0	6.9	0.5	0.1	.....	0.5	3.8	3.4	18.0
17	11 02	5 00	11 03 ^b	4 56 ^a	6.7	7.5	5.9	6.8	0.5	0.1	.....	0.5	3.8	3.4	18.0
18	11 05	4 55	11 06 ^b	4 52 ^a	8.7	9.7	7.7	8.8	0.5	0.1	.....	0.5	4.8	4.4	18.0
19	10 45	4 35	10 46 ^b	4 31 ^a	7.1	8.0	6.2	7.2	0.5	0.1	.....	0.5	4.0	3.6	18.0
20	10 43	4 32	10 46 ^b	4 29 ^a	6.9	8.1	5.6	7.2	0.5	0.5	.....	0.6	4.0	3.6	17.5
21	11 06	4 49	11 09 ^b	4 46 ^a	7.0	8.2	5.6	7.3	0.5	0.5	.....	0.6	4.1	3.6	17.5
22	11 07	4 50	11 08 ^b	4 46 ^a	7.0	7.8	6.2	7.1	0.5	0.1	.....	0.5	3.9	3.5	17.0
23	10 34	4 24	10 37 ^b	4 21 ^a	6.6	7.7	5.3	6.9	0.5	0.5	.....	0.6	3.8	3.4	17.0
24	10 37	4 30	10 38 ^b	4 26 ^a	4.6	5.1	4.0	4.7	0.4	0.1	.....	0.4	2.6	2.3	17.0
25	10 35	4 38	10 36 ^b	4 35 ^a	8.5	9.5	7.5	8.6	0.5	0.1	.....	0.5	4.8	4.2	17.0
26	10 52	4 45	10 53 ^b	4 42 ^a	8.8	9.8	7.7	8.9	0.5	0.1	.....	0.5	4.9	4.4	17.0
27	10 29	4 32	10 30 ^b	4 29 ^a	8.4	9.4	7.4	8.5	0.5	0.1	.....	0.5	4.7	4.2	16.5
28	9 36	3 20	9 31 ^b	3 17 ^a	6.3	7.0	5.5	6.4	0.4	0.1	.....	0.4	3.5	3.2	16.0
29	9 23	2 17	9 24 ^b	2 15 ^a	12.5	14.0	11.0	12.7	0.6	0.2	.....	0.6	7.0	6.2	16.0
30	9 24	3 17	9 25 ^b	3 15 ^a	12.0	14.0	9.7	12.4	0.6	0.6	.....	0.8	7.0	6.2	16.0
31	9 35	3 13	9 36 ^b	3 10 ^a	10.7	12.0	9.4	10.8	0.6	0.1	.....	0.6	6.0	5.4	16.5
32	9 50	3 40	9 51 ^b	3 37 ^a	10.5	11.8	9.2	10.6	0.6	0.1	.....	0.6	5.9	5.2	16.5
33	9 45	3 35	9 46 ^b	3 32 ^a	10.4	11.6	9.2	10.5	0.6	0.1	.....	0.6	5.8	5.2	16.0
34	8 18	2 04	8 21 ^b	2 01 ^a	6.6	7.7	5.3	6.9	0.5	0.5	.....	0.6	3.8	3.4	16.0
35	9 25	3 15	9 26 ^b	3 12 ^a	9.6	10.7	8.4	9.7	0.6	0.1	.....	0.6	5.4	4.8	16.0
36	8 50	2 30	8 51 ^b	2 26 ^a	7.0	7.8	6.2	7.1	0.5	0.1	.....	0.5	3.9	3.5	16.5
37	4 32	2 23	8 31 ^b	2 29 ^a	4.8	5.2	4.5	4.9	0.5	0.1	.....	0.5	2.6	2.4	16.5
38	6 00	12 15	5 59 ^a	12 20 ^b	7.0	7.6	6.6	7.1	0.6	0.1	.....	0.6	3.8	3.5	16.5
39	5 50	12 02	4 49 ^a	12 07 ^b	6.9	7.5	6.5	7.0	0.6	0.1	.....	0.6	3.8	3.4	16.5
40	4 25	10 40	4 24 ^a	10 45 ^b	5.5	6.0	5.2	5.6	0.5	0.1	.....	0.5	3.0	2.8	17.0
41	4 26	10 46	4 25 ^a	10 51 ^b	5.7	6.2	5.4	5.8	0.5	0.1	.....	0.5	3.1	2.8	17.5
42	7 18	0 55	7 17 ^a	1 00 ^a	6.2	6.8	5.8	6.3	0.5	0.1	.....	0.5	3.4	3.1	15.0
43	6 30	0 20	6 29 ^a	0 26 ^a	5.0	5.5	4.7	5.1	0.5	0.1	.....	0.5	2.8	2.5	15.5
44	6 33	0 20	6 32 ^a	0 26 ^a	6.3	6.9	5.9	6.4	0.6	0.1	.....	0.6	3.4	3.2	15.5
45	6 05	12 15	6 04 ^a	12 22 ^b	3.2	3.5	3.0	3.3	0.4	0.1	.....	0.4	1.8	1.6	15.5
46	4 40	10 50	4 39 ^a	10 56 ^b	5.2	5.7	4.9	5.3	0.5	0.1	.....	0.5	2.8	2.6	16.5
47	4 52	10 54	4 51 ^a	11 01 ^b	3.3	3.6	3.1	3.4	0.4	0.1	3 59	0.4	1.8	1.6	16.5
48	6 50	0 40	6 49 ^a	0 45 ^a	7.2	7.8	6.8	7.3	0.6	0.1	.....	0.6	3.9	3.6	16.5
49	9 54	4 21	9 53 ^a	4 26 ^a	5.8	6.3	5.4	5.9	0.5	0.1	.....	0.5	3.2	3.9	16.0
50	10 08	3 55	10 07 ^a	4 00 ^a	6.4	7.0	6.0	6.5	0.6	0.1	.....	0.6	3.5	3.2	16.0
51	9 25	3 15	9 29 ^a	3 12 ^a	7.6	8.8	6.3	7.8	0.2	0.5	.....	0.6	4.4	4.0	16.0
52	9 28	3 11	9 32 ^a	3 08 ^a	10.0	11.6	8.2	10.3	0.3	0.6	.....	0.7	5.8	5.2	15.5
53	10 15	4 29	10 19 ^a	4 26 ^a	10.4	12.2	8.4	10.7	0.6	0.6	.....	0.7	6.1	5.4	15.5
54	9 21	2 59	9 24 ^a	2 56 ^a	10.3	11.9	8.5	10.6	0.3	0.6	.....	0.7	6.0	5.4	15.5
55	9 57	2 55	10 00 ^a	2 52 ^a	10.6	12.3	8.7	10.9	0.3	0.6	.....	0.7	6.2	5.5	15.0
56	9 08	2 55	9 11 ^a	2 52 ^a	10.5	12.2	8.4	10.8	0.6	0.6	.....	0.7	6.1	5.4	15.0
57	9 40	3 23	9 43 ^a	3 20 ^a	10.9	12.6	9.0	11.2	0.3	0.6	.....	0.7	6.3	5.6	15.0
58	10 10	3 53	10 13 ^a	3 50 ^a	12.0	13.9	9.9	12.3	0.3	0.6	.....	0.8	7.0	6.2	15.0
59	10 41	4 34	10 43 ^a	4 32 ^a	12.0	14.0	9.7	12.4	0.6	0.6	.....	0.8	7.0	6.2	15.0
60	10 29	4 12	10 33 ^a	4 09 ^a	8.6	10.0	7.1	8.9	0.3	0.5	.....	0.6	5.0	4.5	14.5
61	10 05	3 48	10 09 ^a	3 45 ^a	7.9	9.2	6.5	8.1	0.2	0.5	.....	0.6	4.6	4.2	14.5
62	8 23	2 16	8 27 ^a	2 15 ^a	5.9	6.8	4.9	6.1	0.2	0.4	.....	0.5	3.4	3.2	14.0
63	7 45	1 35	7 49 ^a	1 32 ^a	6.0	7.0	4.8	6.3	0.4	0.4	.....	0.5	3.5	3.1	14.0
64	7 40	1 30	7 43 ^a	1 27 ^a	6.1	7.1	4.9	6.4	0.4	0.4	.....	0.5	3.6	3.2	14.0
65	7 57	1 30	8 02 ^a	1 26 ^a	5.5	6.4	4.5	5.7	0.2	0.4	.....	0.5	3.2	3.0	14.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
AUSTRALASIA—Continued.											
NEW ZEALAND—continued.											
North Island—Continued.											
		South.	East.				Time meridian, 172° 30' East.		Mean Low Water Springs.		
		° / ' / " .	° / ' / " .	h. m.			h. m.	h. m.	feet.	feet.	
1	Port Russell (Bay of Islands).....	35 16	174 08	11 37	Auckland	225	+0 17	+1 13	-2.8	-0.2	0.66
2	Whangaruru	35 26	174 24	11 38	Auckland	225	+0 05	+0 22	-2.3	-0.2	0.73
3	Tutukaka	35 39	174 34	11 38	Auckland	225	-0 02	+0 14	-2.1	-0.1	0.74
4	Wangarie Harbor	35 53	174 30	11 38	Auckland	225	-0 05	+0 12	-2.1	-0.2	0.77
5	Great Barrier Island, Nagle Cove	36 11	175 33	11 42	Auckland	225	-0 19	-0 02	-0.1	-0.1	1.04
6	AUCKLAND HARBOR	36 50	174 49	11 39	Auckland	225	0 00	0 00	0.0	0.0	1.04
7	River Thames, Entrance	37 10	175 35	11 42	Auckland	225	+0 10	+0 30	+1.9	+0.1	1.25
8	Coromandel Harbor	36 45	175 31	11 42	Auckland	225	0 09	+0 08	+1.7	+0.2	1.19
9	Mercury Bay	36 46	175 54	11 44	Auckland	225	-0 02	+0 12	-1.7	-0.2	0.81
10	Tauranga Harbor	37 36	176 12	11 45	Auckland	225	-0 12	+0 05	-2.7	-0.3	0.62
11	Opoiki River	38 00	177 18	11 49	Auckland	225	-0 21	-0 04	-3.7	-0.3	0.74
12	Cape Runaway	37 32	178 00	11 52	Auckland	225	+0 46	+1 03	-2.2	-0.2	0.74
LESSER ISLANDS.											
Detached islands.											
							Local time.				
13	Port Hutt, Chatham Islands.....	43 47	183 22	12 13	Auckland	225	-1 41	-0 13	-6.0	-0.6	0.94
14	Antipodes Islands	49 41	178 42	11 55	Auckland	225	-3 43	-3 31	-3.4	-0.4	0.71
15	Perseverance Harbor, Campbell I.	52 34	169 09	11 17	Auckland	225	+6 54	+7 15	-5.0	-0.4	0.71
16	Port Ross, Auckland Island	50 32	166 17	11 05	Auckland	225	+4 49	+5 04	-5.3	-0.5	0.72
17	Norfolk Island	29 03	167 59	11 12	Auckland	225	+0 29	+0 43	-3.8	-0.4	0.67
18	Lord Howe Island	31 34	159 06	10 36	Sydney	229	-0 27	-0 26	+1.1	+0.1	1.04
19	Middleton Reef	29 27	159 09	10 37	Sydney	229	-0 32	-0 32	+1.0	0.0	1.27
New Caledonia.											
20	Port Alcmène, Isle of Pines	22 29	167 30	11 10	Apia	217	-11 42	-11 39	+0.4	0.0	1.12
21	Noumea Bay	22 12	166 30	11 06	Apia	217	-11 12	-11 11	0.0	0.0	0.89
22	Port St. Vincent	21 53	166 06	11 04	Apia	217	+10 53	+10 53	0.0	0.0	1.04
23	Port Balad	20 15	164 25	10 58	Apia	217	+11 28	+11 26	+0.3	+0.1	1.08
24	Port Yengen	20 39	164 56	11 00	Apia	217	+11 18	+11 19	-0.4	0.0	1.22
Loyalty Islands.											
25	Wreck Bay, Lifou Island	20 45	167 05	11 08	Apia	217	+11 43	+11 44	+0.9	+0.1	1.31
New Hebrides Islands.											
26	Port Sandwich, Mallicolo Island	16 26	167 47	11 11	Melbourne	233	+2 52	+2 40	+1.4	+0.4	1.65
27	Havannah Harbor, Efate Island	17 35	168 16	11 13	Melbourne	233	+2 42	+2 30	+0.8	+0.2	1.41
28	Aneityum Island	20 15	169 44	11 19	Melbourne	233	+2 37	+2 26	+1.0	+0.2	1.47
Banks Islands.											
29	Patteson, Vanua Lava Island	13 48	167 31	11 10	Apia	217	+11 53	+11 56	+0.6	0.0	1.19
Santa Cruz Islands.											
30	Vanikoro Island	11 36	166 55	11 08	Apia	217	+10 03	+10 06	+0.6	0.0	1.17
Solomon Islands.											
31	Makira Bay, San Christoval I.	10 30	161 30	10 46	Apia	217	+11 59	+12 00	0.0	0.0	1.04
32	Vulavu, Isabel Island	8 30	159 40	10 39	Apia	217	+10 14	+10 17	+0.3	+0.1	1.07
33	Gazelle Harbor, Bougainville I.	6 35	155 05	10 20	Apia	217	-7 36	-7 36	-0.4	0.0	0.85
New Britain Island.											
34	Blanche Bay	4 13	152 12	10 09	Apia	217	-10 35	-10 37	-1.0	-0.2	0.65
New Ireland Island.											
35	Holz Haven	2 48	150 57	10 04	Apia	217	-4 20	-4 19	-0.8	0.0	0.73
New Hanover Island.											
36	North Haven	2 26	149 55	10 00	Apia	217	-4 40	-4 39	-0.8	0.0	0.77
Louisiade Archipelago.											
37	Joannet Harbor, Joannet Island	11 12	153 18	10 13	Apia	217	-2 40	+2 41	+2.5	+0.3	1.35
38	Richards Bay, Woodlark Island	9 03	152 49	10 11	Apia	217	-0 05	-0 04	+0.9	+0.1	1.41
NEW GUINEA, OR PAPUA.											
Dutch New Guinea.											
39	Dourga Strait	7 27	138 44	9 15	Bombay	257	+11 55	+12 03	+2.2	-0.2	1.27
40	Trilon Bay	3 47	134 06	8 56	Nagasaki	181	+5 10	+5 05	-0.7	-0.4	0.71
41	Segaar Bay	2 40	132 23	8 50	Nagasaki	181	-1 50	-1 55	-1.8	-0.5	0.73
42	Cape Spencer, Dampier Strait	0 53	131 15	8 45	Bombay	257	-6 29	-6 19	-0.6	-0.6	0.99
German New Guinea.											
43	Port Constantine	5 30	145 48	9 43	Nagasaki	181	+9 28	+9 24	-4.4	-0.7	0.47
44	Rook Island	5 33	148 00	9 52	Nagasaki	181	+8 58	+8 53	-4.6	-0.8	0.87
45	Parsee Point	6 58	147 10	9 49	Nagasaki	181	+9 13	+9 09	-4.4	-0.8	0.47
English New Guinea.											
46	Kiriwina, Trobriand Islands	8 28	151 03	10 04	Nagasaki	181	+8 57	+8 53	-4.6	-0.8	0.39
47	Cape Vogel, Ward Hunt Strait	9 40	150 01	10 00	Nagasaki	181	+9 02	+8 55	-5.1	-0.8	0.41
48	East Cape, Goschen Strait	10 13	150 54	10 04	Nagasaki	181	-0 28	-0 32	-2.8	-0.6	0.63
49	China Strait	10 33	150 41	10 03	Nagasaki	181	+0 12	+0 07	-2.0	-0.5	0.73
50	Su-a-u Harbor	10 43	150 11	10 01	Nagasaki	181	+1 02	+0 55	0.0	-0.4	1.07
51	Port Moresby	9 25	147 07	9 48	Nagasaki	181	+0 58	+0 34	0.0	-0.3	1.03
52	Fly River Entrance	8 43	143 26	9 34	Bombay	257	-2 00	-1 55	+1.8	-0.2	1.27

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i>
1	7 26	1 55	7 31a	1 51a	5.1	5.9	4.2	5.3	0.2	0.4	11 48	0.5	3.0	2.7	14.5
2	7 15	1 06	7 20a	1 01a	5.6	6.5	4.6	5.8	0.2	0.4	.....	0.5	3.2	3.0	14.5
3	7 08	0 57	7 11a	0 54a	5.7	6.7	4.6	6.0	0.4	0.4	.....	0.5	3.4	3.0	14.5
4	7 06	0 55	7 09a	0 51a	5.8	6.7	4.8	6.0	0.2	0.4	.....	0.5	3.4	3.1	14.5
5	6 55	0 45	6 59a	0 42a	7.7	8.9	6.3	7.9	0.2	0.5	.....	0.6	4.4	4.0	14.5
6	7 11	0 44	7 14a	0 41a	7.7	9.0	6.2	8.0	0.5	0.5	9 50	0.6	4.5	4.0	15.0
7	7 24	1 17	7 28a	1 14a	9.5	11.0	7.8	9.8	0.3	0.5	.....	0.7	5.5	5.0	15.0
8	7 05	0 55	7 09a	0 52a	9.2	10.7	7.6	9.5	0.3	0.5	.....	0.7	5.4	4.8	15.0
9	7 14	1 01	7 19a	0 57a	6.2	7.2	5.1	6.4	0.2	0.4	.....	0.6	3.6	3.3	15.0
10	7 05	0 56	7 10a	0 51a	5.3	6.1	4.4	5.5	0.2	0.4	.....	0.5	3.0	2.8	15.0
11	7 00	0 50	7 06a	0 45a	4.3	5.0	3.5	4.5	0.2	0.4	.....	0.5	2.5	2.4	15.0
12	8 10	2 00	8 14a	1 56a	5.7	6.6	4.7	5.9	0.2	0.4	.....	0.5	3.3	3.0	15.0
13	5 22	0 23	5 24a	0 20a	2.3	2.5	2.1	2.4	0.3	0.2	.....	0.4	1.2	1.2	17.0
14	3 20	9 30	3 22a	9 27a	4.8	5.3	4.3	5.2	0.4	0.2	.....	0.4	2.6	2.5	21.0
15	1 30	7 49	1 00a	7 24a	3.0	3.5	2.3	3.4	0.5	0.4	.....	0.6	1.8	1.7	21.5
16	11 50	5 38	11 52a	5 34a	2.9	3.2	2.6	3.2	0.3	0.2	.....	0.3	1.6	1.6	19.5
17	7 30	1 17	7 32a	1 13a	4.3	4.7	3.9	4.6	0.3	0.2	.....	0.4	2.4	2.3	12.0
18	8 20	2 08	8 13a	2 32a	4.4	5.4	3.3	5.4	1.7	0.5	.....	1.8	2.7	2.5	11.0
19	8 15	2 02	8 09a	2 25a	4.3	5.3	3.2	5.3	1.7	0.5	.....	1.7	2.6	2.4	11.0
20	7 55	1 45	7 54a	1 54a	2.9	3.6	2.2	3.0	0.4	0.1	.....	0.4	1.8	1.4	10.5
21	8 25	2 13	8 24a	2 23a	2.5	3.1	1.9	2.6	0.4	0.1	.....	0.4	1.6	1.2	10.5
22	5 40	11 52	5 39a	12 02b	2.7	3.3	2.0	2.8	0.4	0.1	.....	0.4	1.6	1.3	10.5
23	6 15	0 00	6 14a	0 09a	2.8	3.5	2.1	2.9	0.4	0.1	.....	0.4	1.8	1.2	10.0
24	6 05	12 18	6 04a	12 27b	2.9	3.6	2.2	3.0	0.4	0.1	.....	0.4	1.8	1.4	10.0
25	6 30	0 18	6 29a	0 26a	3.4	4.2	2.5	3.5	0.4	0.1	.....	0.4	2.1	1.7	10.5
26	4 38	10 50	3 32b	11 01b	2.8	3.8	1.9	3.1	0.5	1.6	.....	1.7	1.9	1.8	9.5
27	5 15	11 27	4 10b	11 38b	2.4	3.0	1.8	2.7	0.4	1.1	.....	1.3	1.5	1.4	10.0
28	5 10	11 23	4 06b	11 34b	2.5	3.1	1.9	2.9	0.4	1.2	.....	1.4	1.6	1.5	10.5
29	6 40	0 30	6 39a	0 38a	3.1	3.8	2.3	3.2	0.4	0.1	.....	0.4	1.9	1.5	9.5
30	4 50	11 06	4 49a	11 13b	3.1	3.8	2.3	3.2	0.4	0.1	.....	0.4	1.9	1.5	9.0
31	6 45	0 38	6 44a	0 43a	2.7	3.3	2.0	2.8	0.4	0.1	.....	0.4	1.6	1.3	8.5
32	5 00	11 15	4 59a	11 24b	2.8	3.5	2.1	2.9	0.4	0.1	.....	0.4	1.8	1.4	8.0
33	12 00	5 47	11 59a	6 01a	2.2	2.7	1.6	2.2	0.3	0.1	.....	0.3	1.4	1.1	7.0
34	9 00	2 45	8 58a	2 57a	1.7	2.1	1.3	1.7	0.3	0.1	.....	0.3	1.0	0.8	6.5
35	2 50	9 03	2 49b	9 13a	1.9	2.4	1.4	1.9	0.3	0.1	.....	0.3	1.2	0.9	6.0
36	2 30	8 43	2 29b	8 53a	1.9	2.4	1.4	1.9	0.3	0.1	.....	0.3	1.2	0.9	5.5
37	9 50	3 38	9 49b	3 44b	4.8	5.9	3.6	4.9	0.5	0.1	.....	0.5	3.0	2.4	7.0
38	7 05	0 53	7 04b	1 01b	3.4	4.2	2.5	3.4	0.4	0.1	.....	0.4	2.1	1.7	7.0
39	11 45	5 33	12 10a	5 32a	11.3	14.0	8.3	20.2	2.5	6.1	.....	6.6	7.0	8.6	4.0
40	0 55	7 08	1 30b	7 06a	5.9	7.3	4.3	12.3	1.8	4.4	.....	4.8	3.6	5.2	3.0
41	6 20	0 07	6 59b	0 05b	4.9	6.0	3.6	10.7	1.6	4.0	.....	4.4	3.0	4.4	3.0
42	5 45	12 00	6 14b	11 59a	8.7	10.7	6.4	18.5	2.2	5.4	.....	5.8	5.4	7.1	2.5
43	5 15	11 28	6 08b	11 26a	2.5	3.1	1.8	6.7	1.2	2.9	.....	3.1	1.6	2.8	5.0
44	4 45	10 57	5 40b	10 54a	2.4	3.0	1.8	6.4	1.1	2.8	.....	3.1	1.5	2.6	5.5
45	5 00	11 13	5 53b	11 11a	2.6	3.2	1.9	6.7	1.2	2.9	.....	3.2	1.6	2.8	5.5
46	4 45	10 58	5 40b	10 55a	2.4	3.0	1.8	6.4	1.1	2.8	.....	3.1	1.5	2.6	6.5
47	4 50	11 00	5 51b	10 57a	1.9	2.4	1.4	5.5	1.0	2.5	.....	2.7	1.2	2.2	6.5
48	7 45	1 33	8 27b	1 31b	4.0	5.0	2.9	9.4	1.5	3.7	.....	3.9	2.5	3.8	6.6
49	8 25	2 12	9 04b	2 10b	4.7	5.8	3.4	10.5	1.6	4.0	.....	4.3	2.9	4.4	6.6
50	9 15	3 00	9 48b	2 58b	6.6	8.1	4.8	13.5	1.9	4.8	.....	5.1	4.0	5.7	6.5
51	8 50	2 38	9 22b	2 36b	6.5	8.0	4.8	13.1	1.8	4.6	.....	4.9	4.0	5.5	6.5
52	10 15	4 00	10 41b	3 59b	10.9	13.5	8.0	19.6	2.4	6.0	.....	6.5	6.8	8.4	5.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of ranges.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
AUSTRALASIA—Continued.											
AUSTRALIA.											
North Australia.											
		South.	East.				Time meridian, 135° East.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Turtle Point, Victoria River.....	14 50	129 14	8 37	Bombay.....	257	- 4 51	- 4 43	+ 6.4	+0.2	1.7
2	Pearce Point.....	14 23	129 20	8 37	Bombay.....	257	- 5 06	- 5 04	+10.4	-0.6	2.1
3	Port Keats.....	14 05	129 37	8 38	Bombay.....	257	- 6 07	- 5 59	+ 9.4	-0.6	2.0
4	Port Patterson.....	12 39	130 25	8 42	Bombay.....	257	- 8 06	- 8 01	+ 4.8	0.0	1.8
5	Port Darwin.....	12 23	130 37	8 42	Bombay.....	257	- 6 59	- 6 43	+ 5.0	0.0	1.9
6	Adelaide River Entrance.....	12 10	131 13	8 45	Bombay.....	257	- 6 44	- 6 37	+ 4.8	0.0	1.9
7	Port Essington.....	11 11	132 07	8 48	Bombay.....	257	- 8 02	- 7 55	+ 1.2	-0.4	1.0
8	Liverpool River Entrance.....	12 00	134 15	8 57	Bombay.....	257	- 5 54	- 5 46	+ 0.4	-0.4	1.0
9	Cape Wilberforce.....	11 54	136 34	9 06	Bombay.....	257	- 4 21	- 4 13	+ 1.6	-0.6	0.9
10	Sir Edward Pellew Islands.....	15 34	137 01	9 08	Nagasaki.....	181	- 1 04	- 1 08	- 1.3	-0.5	0.7
Queensland.											
							Time meridian, 150° East.				
11	Kimberly.....	17 27	140 56	9 24	Nagasaki.....	181	+10 19	+10 14	+ 0.6	-0.2	1.0
12	Booby Island, Torres Strait.....	10 36	141 55	9 28	Cape Horn.....	137	-11 34	-11 37	+ 2.6	+0.4	1.9
13	Cape York, Torres Strait.....	10 43	142 31	9 30	Cape Horn.....	137	+ 9 54	+ 9 51	+ 2.7	+0.5	1.2
14	Murray Islands, Torres Strait.....	9 57	144 02	9 36	Cape Horn.....	137	+ 5 38	+ 5 35	+ 4.3	+0.5	1.8
15	Cape Sidmouth.....	13 24	143 36	9 34	Cape Horn.....	137	+ 5 25	+ 5 24	+ 4.2	+0.6	1.8
16	Cooktown.....	15 27	145 15	9 41	Cape Horn.....	137	+ 6 02	- 6 24	+ 0.4	-0.4	0.9
17	Cairns Harbor.....	16 55	145 47	9 43	Cape Horn.....	137	+ 6 00	- 6 26	+ 1.0	+0.6	1.0
18	Townsville.....	19 15	146 50	9 47	Cape Horn.....	137	+ 6 01	+ 6 01	+ 3.4	+0.6	1.0
19	Bowen, Port Denison.....	20 01	148 15	9 53	Cape Horn.....	137	+ 6 10	+ 6 10	+ 3.6	+0.6	1.0
20	Mackay, Pioneer River.....	21 09	149 16	9 57	Cape Horn.....	137	+ 7 01	+ 7 01	+10.7	+1.3	3.2
21	Rockhampton, Fitzroy River.....	23 22	150 32	10 02	Cape Horn.....	137	+ 7 41	+ 7 41	+ 4.2	-0.6	1.2
22	Bundaberg, Burnett River.....	24 45	152 18	10 09	Cape Horn.....	137	+ 5 04	+ 5 01	+ 3.5	+0.5	1.7
23	Brisbane Bar.....	27 31	153 00	10 12	Cape Horn.....	137	+ 5 46	- 6 39	+ 0.8	+0.2	1.1
New South Wales.											
24	Ballina.....	28 52	153 33	10 14	Sydney.....	229	+ 0 07	+ 0 25	- 1.2	-0.2	0.6
25	Southhead, Clarence River.....	29 25	153 23	10 14	Sydney.....	229	- 0 40	- 0 42	- 0.2	0.0	0.9
26	Port Macquarie.....	31 25	152 56	10 12	Sydney.....	229	+ 0 07	+ 0 06	- 0.2	0.0	0.8
27	Crowdy Head.....	31 51	152 46	10 11	Sydney.....	229	+ 0 13	+ 0 14	+ 0.6	0.0	1.0
28	Port Stephens.....	32 45	152 13	10 09	Sydney.....	229	- 0 35	- 0 37	+ 1.5	+0.1	1.4
29	Newcastle.....	32 57	151 44	10 07	Sydney.....	229	- 0 06	- 0 13	0.0	0.0	1.0
30	SYDNEY.....	33 52	151 12	10 05	Sydney.....	229	0 00	0 00	0.0	0.0	1.0
31	Botany Bay.....	33 59	151 09	10 05	Sydney.....	229	- 0 46	- 0 36	+ 2.6	+0.2	1.0
32	Ulladulla Harbor.....	35 22	150 31	10 02	Sydney.....	229	- 0 23	- 0 23	+ 1.1	-0.1	1.0
33	Montagu Island.....	36 15	150 14	10 01	Sydney.....	229	- 0 22	- 0 22	+ 1.0	0.0	1.0
34	Eden, Twofold Bay.....	37 05	149 55	10 00	Sydney.....	229	- 0 36	- 0 36	+ 0.9	+0.1	1.1
Victoria.											
35	Gabo Island.....	37 35	149 55	10 00	Sydney.....	229	- 0 01	- 0 01	+ 0.4	-0.2	1.1
36	Entrance to Gippsland lakes.....	37 48	148 32	9 54	Sydney.....	229	- 0 15	- 0 15	+ 1.1	-0.3	0.7
37	Corner Inlet.....	38 43	146 35	9 46	Melbourne.....	236	- 2 12	- 2 24	+ 5.0	+0.2	3.5
38	Venus Bay.....	38 41	145 46	9 43	Melbourne.....	236	- 2 52	- 3 04	+ 4.2	+0.2	3.2
39	Port Western.....	38 31	145 22	9 41	Melbourne.....	236	- 2 09	- 2 20	+ 6.2	+0.2	4.4
40	Sorrents Back Beach (Ocean Beach).....	38 22	144 46	9 39	Melbourne.....	236	- 3 39	- 4 44	+ 5.0	+0.2	3.2
41	Nepean Point, Port Phillip.....	38 18	144 39	9 39	Melbourne.....	236	- 3 51	- 4 03	+ 0.4	0.0	1.2
42	Geelong, Port Phillip.....	38 07	144 26	9 38	Melbourne.....	236	- 0 06	- 0 12	+ 1.0	0.0	1.0
43	MELBOURNE (Williamstown).....	37 52	144 54	9 40	Melbourne.....	236	0 00	0 00	0.0	0.0	1.0
44	Warrnambool Harbor, Lady Bay.....	38 23	142 26	9 30	Melbourne.....	236	- 1 33	- 1 44	+ 0.8	0.0	1.4
45	Portland Bay.....	38 20	141 37	9 26	Melbourne.....	236	- 1 36	- 1 45	+ 0.8	0.0	1.4
Tasmania and Bass Strait.											
46	Currie Harbor, King Island.....	39 57	143 51	9 35	Melbourne.....	236	- 1 30	- 1 39	+ 0.8	0.0	1.4
47	Port Dalrymple.....	41 03	146 49	9 47	Melbourne.....	236	- 3 32	- 3 41	+ 6.6	+0.4	4.7
48	Goose Island, Banks Strait.....	40 19	147 48	9 51	Melbourne.....	236	- 4 08	- 4 20	+ 5.8	+0.2	4.4
49	Hobart.....	42 53	147 21	9 49	Melbourne.....	236	- 6 39	- 6 51	+ 2.1	+0.2	2.1
50	Macquarie Harbor.....	42 12	145 13	9 41	Melbourne.....	236	- 7 16	- 7 28	+ 0.8	0.0	1.4
South Australia.											
							Time meridian, 135° East.				
51	Port Macdonnel.....	38 04	140 40	9 23	Port Adelaide.....	237	- 5 13	- 5 17	- 2.1	-0.4	0.8
52	Kingston.....	36 50	139 51	9 19	Port Adelaide.....	237	- 5 09	- 5 15	- 2.0	-0.4	0.8
53	Cape Willoughby, Kangaroo I.....	35 51	138 10	9 13	Port Adelaide.....	237	- 1 05	- 1 07	- 1.3	-0.2	0.7
54	PORT ADELAIDE.....	34 51	138 30	9 14	Port Adelaide.....	237	0 00	0 00	0.0	0.0	1.0
55	Port Wakefield.....	34 12	138 09	9 13	Port Adelaide.....	237	+ 0 48	+ 1 00	+ 2.1	+0.3	1.0
56	Port Victoria, Spencer Gulf.....	34 30	137 28	9 10	Port Adelaide.....	237	- 2 35	- 2 40	- 2.2	-0.4	0.8
57	Port Wallaroo, Spencer Gulf.....	33 55	137 37	9 10	Port Adelaide.....	237	+ 0 30	+ 0 32	- 2.3	-0.4	0.8
58	Port Pirie, Spencer Gulf.....	33 06	138 00	9 12	Port Adelaide.....	237	+ 2 42	+ 2 46	+ 0.7	+0.2	1.2
59	Port Augusta, Spencer Gulf.....	32 28	137 46	9 11	Port Adelaide.....	237	+ 3 15	+ 2 27	+ 2.7	+0.4	1.0
60	Coffin Bay.....	34 26	135 22	9 01	Port Adelaide.....	237	- 4 30	- 4 27	- 1.7	-0.4	0.7
61	Port Eyre.....	31 57	132 30	8 50	Port Adelaide.....	237	- 5 15	- 5 20	- 1.7	-0.4	0.7

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i>
1	7 00	0 48	7 22b	0 47b	15.1	18.6	11.0	25.3	2.8	7.1	.....	7.6	9.3	11.2	2.5
2	6 45	0 27	7 05b	0 26b	18.6	23.0	13.6	29.9	3.1	7.9	.....	8.5	11.5	13.2	2.5
3	5 45	11 58	6 05b	11 57a	17.7	21.9	12.9	28.8	3.1	7.7	.....	8.3	11.0	12.6	2.5
4	3 50	10 00	4 13b	9 59a	13.5	16.7	9.9	23.2	2.7	6.7	.....	7.2	8.4	10.2	2.5
5	4 57	11 18	5 20b	11 17a	13.8	17.0	10.0	23.6	2.7	6.8	.....	7.3	8.5	10.3	3.0
6	5 15	11 27	5 38b	11 26a	13.6	16.8	9.9	23.4	2.7	6.8	.....	7.3	8.4	10.2	3.0
7	4 00	10 12	4 25b	10 11a	10.3	12.7	7.5	18.8	2.3	5.9	.....	6.3	6.4	8.2	3.0
8	6 17	0 05	6 44b	0 04b	9.7	12.0	7.1	18.2	2.3	6.0	.....	6.1	6.0	7.6	3.5
9	8 00	1 48	8 30b	1 47b	7.9	9.8	5.8	15.3	2.1	5.1	.....	5.5	4.9	6.6	4.0
10	7 15	1 03	7 52b	1 01b	5.4	6.6	4.0	11.5	1.7	4.2	.....	4.6	3.3	4.8	4.0
11	5 30	11 42	6 02b	11 41b	7.0	8.7	5.1	14.0	2.0	4.8	.....	5.2	4.4	5.9	5.0
12	4 20	10 30	4 15b	10 49b	6.3	7.8	4.7	7.5	2.1	0.6	.....	2.1	3.9	3.4	4.5
13	1 00	7 10	0 55b	7 30b	6.4	8.0	4.7	7.6	2.1	0.6	.....	2.2	4.0	3.5	5.0
14	9 15	3 00	9 10a	3 17b	8.0	9.7	5.9	9.3	2.3	0.7	.....	2.4	4.8	4.4	5.0
15	9 00	2 47	8 55a	2 59b	7.8	9.6	5.8	9.1	2.3	0.7	.....	2.4	4.8	4.3	5.0
16	9 44	3 31	9 44a	3 13a	4.1	5.5	2.3	4.7	1.2	0.1	9 43	1.2	2.8	2.1	6.5
17	9 44	3 31	10 04a	3 03a	4.5	6.4	1.9	6.0	2.1	1.6	12 10	2.6	3.2	2.9	6.0
18	9 50	3 38	9 45a	3 57b	7.1	8.7	5.3	8.4	2.2	0.7	.....	2.3	4.4	3.9	6.5
19	10 05	3 53	10 00a	4 12b	7.3	9.0	5.4	8.6	2.2	0.7	.....	2.3	4.5	4.0	7.0
20	11 00	4 48	10 56a	5 01b	13.6	16.8	10.0	15.3	3.0	0.9	.....	3.1	8.4	7.3	7.5
21	11 45	5 33	11 40a	5 50b	7.9	9.7	5.9	9.2	2.3	0.7	.....	2.4	4.8	4.0	8.0
22	9 15	3 00	9 10a	3 19b	7.2	8.9	5.3	8.5	2.2	0.7	.....	2.3	4.4	4.0	8.5
23	10 00	3 48	10 05a	3 22a	4.7	5.8	3.3	5.5	1.9	0.4	10 46	1.9	2.9	2.4	9.5
24	9 02	3 07	9 08a	2 24a	2.3	2.8	1.8	3.1	1.6	0.2	9 41	1.6	1.4	1.2	9.5
25	8 15	2 00	8 07a	2 27b	3.2	4.0	2.4	4.0	1.5	0.4	.....	1.5	2.0	1.8	9.5
26	9 00	2 46	8 53a	3 12b	3.3	4.1	2.4	4.2	1.5	0.5	.....	1.5	2.0	1.9	10.0
27	9 05	2 58	8 59a	3 16b	4.0	4.9	3.0	4.9	1.6	0.5	.....	1.6	2.4	2.3	10.0
28	8 15	2 00	8 09a	2 23b	4.8	5.8	3.6	5.9	1.8	0.6	.....	1.9	2.9	2.7	10.0
29	8 42	2 22	8 32a	2 51b	3.4	4.2	2.5	4.2	1.6	0.6	7 07	1.6	2.1	1.9	10.0
30	8 46	2 38	8 37a	3 00b	3.4	4.2	2.6	4.3	1.5	0.5	7 21	1.5	2.1	1.9	10.0
31	8 00	1 57	7 54a	2 17b	5.7	7.0	4.2	6.8	2.0	0.6	.....	2.0	3.5	3.2	10.0
32	8 20	2 07	8 13a	2 31b	4.4	5.4	3.8	5.4	1.7	0.5	.....	1.8	2.7	2.5	10.0
33	8 20	2 07	8 13a	2 31b	4.3	5.3	3.2	5.3	1.7	0.5	.....	1.8	2.6	2.4	10.0
34	8 05	1 52	7 59a	2 15b	4.2	5.2	3.1	5.2	1.7	0.5	.....	1.7	2.6	2.4	10.0
35	8 40	2 27	8 34a	2 50b	4.0	4.5	3.4	5.0	1.7	0.5	.....	1.6	2.2	2.1	10.0
36	8 20	2 07	8 12a	2 36b	2.6	2.9	2.2	3.5	1.4	0.3	.....	1.3	1.4	1.4	9.5
37	0 04	6 16	0 22a	6 13b	6.4	7.2	5.5	7.8	0.4	2.0	.....	2.0	3.6	3.3	9.0
38	11 46	5 33	12 05b	5 30b	5.6	6.3	4.8	6.9	0.4	1.8	.....	1.9	3.2	3.7	8.5
39	0 02	6 15	0 19a	6 12b	7.6	8.5	6.5	9.1	0.4	2.2	.....	2.2	4.2	4.9	8.0
40	10 55	3 49	11 13b	3 46b	6.5	7.3	5.7	7.7	0.4	2.0	.....	2.0	3.6	4.2	8.0
41	10 43	4 30	11 11b	4 26b	2.2	2.5	1.9	3.0	0.2	1.2	.....	1.1	1.2	1.7	8.0
42	2 02	8 20	2 29a	8 16b	2.7	3.0	2.3	3.6	0.2	1.3	.....	1.3	1.5	2.0	7.5
43	2 10	8 34	3 02a	8 17b	1.7	2.0	1.6	2.5	0.3	1.0	7 45	1.2	1.0	1.4	7.5
44	0 27	6 40	0 57a	6 35b	2.5	2.8	2.2	3.3	0.2	1.2	.....	1.3	1.4	1.8	6.5
45	0 20	6 35	0 48a	6 31b	2.4	2.7	2.1	3.2	0.2	1.2	.....	1.2	1.4	1.8	6.0
46	0 35	6 50	1 05a	6 45b	2.5	2.8	2.2	3.3	0.2	1.2	.....	1.3	1.4	1.8	7.5
47	11 10	5 00	11 25b	4 58b	8.0	9.0	6.9	9.5	0.4	2.2	.....	2.2	4.5	5.1	9.0
48	10 38	4 25	10 55b	4 22b	7.2	8.1	6.2	8.7	0.4	2.1	.....	2.1	4.0	4.6	9.5
49	8 05	1 52	8 28b	1 48b	3.7	4.2	3.2	4.7	0.3	1.5	.....	1.5	2.1	2.6	10.0
50	7 20	1 07	7 48b	1 03b	2.4	2.7	2.1	3.2	0.2	1.2	.....	1.2	1.4	1.8	8.5
51	11 25	5 14	11 11b	6 06a	2.8	3.9	0.6	3.7	2.1	0.6	.....	2.2	2.0	1.5	5.5
52	11 25	5 12	11 11b	6 03a	2.9	4.0	0.6	3.8	2.2	0.6	.....	2.2	2.0	1.6	5.5
53	2 58	9 14	2 45a	10 01a	3.4	4.7	0.7	4.4	2.3	0.7	.....	2.4	2.4	1.8	6.0
54	4 04	10 22	3 53a	11 03a	4.5	6.3	0.9	5.6	2.7	0.8	2 53	2.8	3.2	2.4	5.0
55	4 51	9 21	4 42a	9 56a	6.3	8.8	1.3	7.6	3.2	0.9	.....	3.3	4.4	3.3	5.0
56	1 25	7 38	1 11a	8 31a	2.7	3.8	0.5	3.5	2.1	0.6	.....	2.2	1.9	1.5	5.0
57	4 30	10 50	4 15a	11 45a	2.6	3.6	0.5	3.4	2.0	0.6	.....	2.1	1.8	1.4	5.0
58	6 44	0 41	6 34a	1 20b	5.0	7.1	1.0	6.2	2.9	0.8	.....	3.0	3.6	2.7	5.0
59	7 16	0 21	7 07a	0 55b	6.8	9.4	1.4	8.1	3.3	1.0	.....	3.4	4.7	3.6	5.0
60	11 46	5 42	11 33b	6 30b	3.2	4.5	0.6	4.1	2.3	0.7	.....	2.4	2.2	1.7	4.0
61	10 49	4 37	10 36b	5 25a	3.2	4.5	0.6	4.1	2.3	0.7	.....	2.4	2.2	1.7	3.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Rate of run.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
AUSTRALASIA—Continued.												
AUSTRALIA—continued.												
Western Australia.												
		South.	East.				Time meridian, 120° East.		Mean Low Water Springs.			
				<i>h. m.</i>			<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>		
1	Princess Royal Har., K. Geo. Id ...	35 08	118 00	7 52	Batavia	205	+12 44	+12 41	-0.1	+0.5	0.5	
2	Albany, King George Sound	35 01	117 54	7 52	Batavia	205	+12 22	+11 04	+0.3	+0.5	0.5	
3	Freemantle, Swan River Entrance ..	32 03	115 45	7 43	Batavia	205	+11 08	+11 37	-0.2	+0.4	0.5	
4	Champion Bay	28 47	114 35	7 38	Batavia	205	+10 21	+9 33	+0.7	+0.5	1.0	
5	Port Walcott	20 39	117 13	7 49	Bombay	257	-0 31	+11 54	+5.6	0.0	1.0	
6	Collier Bay	16 23	124 25	8 18	Bombay	257	-0 44	+11 34	+20.7	-1.7	1.0	
7	Cambridge Bay	16 00	128 10	8 33	Bombay	257	-4 41	+7 49	+10.2	+0.6	2.0	
ASIA (SOUTH COAST).												
INDIA.												
Bay of Bengal.												
		North.					Time meridian, 92° 30' East.					
8	Nankauri Harbor, Nicobar Islands.	8 03	93 30	6 14	St. Johns	53	-11 07	-11 09	+4.1	+0.9	2.0	
9	Port Blair, Andaman Islands	11 41	92 45	6 11	St. Johns	53	-10 29	-10 31	+2.4	-0.6	1.0	
10	Port Cornwallis, Andaman Islands ..	13 19	93 00	6 12	St. Johns	53	-10 21	-10 23	+4.3	-0.9	2.0	
11	Mergul	12 26	98 36	6 34	Rangoon	241	+6 05	+5 19	+1.4	+1.2	1.0	
12	Reef Island, Tavoy River Entrance ..	13 36	98 13	6 33	Rangoon	241	+6 16	+5 30	-0.7	-0.9	1.0	
13	Yé, Yé River	15 15	97 53	6 32	Rangoon	241	+7 12	+6 26	+1.4	+1.2	1.0	
14	Amherst, Moulmein River	16 05	97 34	6 30	Rangoon	241	+10 06	+10 02	+2.4	+1.4	1.0	
15	Moulmein, Moulmein River	16 29	97 37	6 30	Calcutta	245	+2 15	+1 31	+1.0	+0.4	1.0	
16	Elephant Point, Rangoon River	16 30	96 18	6 25	Rangoon	241	-0 57	-1 04	+1.5	+1.1	1.0	
17	RANGOON, Rangoon River	16 46	96 10	6 25	Rangoon	241	0 00	0 00	0.0	0.0	0.0	
18	Bassein River Entrance	16 00	94 20	6 17	Rangoon	241	-1 13	-1 04	+2.2	+1.2	1.0	
19	Akyab	20 08	92 54	6 12	Calcutta	245	-3 19	-5 32	-2.5	-0.1	1.0	
Time meridian, 82° 30' East.												
20	Chittagong	22 20	91 50	6 07	Calcutta	245	+0 34	-0 58	+2.3	-0.7	1.0	
21	Dublat, Hoogly River	21 38	88 06	5 52	Calcutta	245	-3 40	-5 45	+3.0	-0.8	1.0	
22	Diamond Harbor, Hoogly River	22 11	88 12	5 53	Calcutta	245	-2 17	-3 22	+4.6	-1.2	1.0	
23	CALCUTTA (Kidderpore), Hoogly R. ..	22 33	88 19	5 53	Calcutta	245	0 00	0 00	0.0	0.0	0.0	
24	False Point	20 23	86 47	5 47	Madras	249	+0 19	+0 07	+3.2	+0.4	2.0	
25	Vizagapatam	17 41	83 17	5 33	Madras	249	+0 01	-0 04	+1.1	+0.1	1.0	
26	Cocanada	16 56	82 15	5 29	Madras	249	-0 01	+0 01	+1.1	0.0	1.0	
27	MADRAS	13 06	80 18	5 21	Madras	249	0 00	0 00	0.0	0.0	0.0	
28	Negapatam	10 46	79 51	5 19	Madras	249	+0 04	+0 13	-1.0	-0.2	0.0	
29	Pamban Pass, Rameswaram Island ..	9 16	79 09	5 17	Colombo	253	-0 08	-0 09	0.0	0.0	1.0	
30	Tuticorin	8 48	78 09	5 13	Colombo	253	+0 11	+0 10	+0.8	+0.2	1.0	
31	Trincomalee, Ceylon	8 33	81 13	5 25	Colombo	253	-6 08	-6 09	0.0	0.0	1.0	
32	Point de Galle, Ceylon	6 02	80 13	5 21	Colombo	253	+0 13	+0 18	-0.1	+0.1	0.0	
33	COLOMBO, Ceylon	6 56	79 51	5 19	Colombo	253	0 00	0 00	0.0	0.0	1.0	
Arabian Sea, east coast.												
34	Quilon	8 54	76 37	5 06	Yokohama	177	-4 15	-4 22	-0.9	+0.6	0.0	
35	Cochin	9 58	76 15	5 05	Yokohama	177	-5 24	-5 31	-2.3	-0.4	0.0	
36	Beypore	11 10	75 48	5 03	Yokohama	177	-5 33	-5 35	-1.7	-0.3	0.0	
37	Mangalore	12 52	74 50	4 59	Yokohama	177	-6 00	-6 02	+1.6	0.0	1.0	
38	Karwar	14 48	74 06	4 56	Karachi	261	-0 09	-0 16	-2.0	-0.2	0.0	
39	Goa, or Mormugoa	15 25	73 48	4 55	Karachi	261	-0 08	-0 16	-1.8	-0.2	0.0	
40	BOMBAY, Apollo Bandar	18 55	72 50	4 51	Bombay	257	0 00	0 00	0.0	0.0	0.0	
41	Bhavnagar	21 48	72 09	4 49	Shanghai	189	+5 08	+4 06	+18.8	+3.0	1.0	
42	Port Albert Victor (Kathiawar) ..	20 58	71 33	4 46	Karachi	261	+3 53	+3 26	+1.8	+0.6	1.0	
43	Okha Point and Bet Harbor	22 28	69 05	4 36	Bombay	257	+0 53	+0 47	-0.9	-0.3	0.0	
44	Navanar Point, Gulf of Cutch	22 44	69 43	4 39	Bombay	257	+1 56	+2 09	+3.9	-0.3	1.0	
45	Hansthal Point, Gulf of Cutch	22 56	70 21	4 41	Bombay	257	+2 32	+3 23	+5.2	-0.4	1.0	
46	KARACHI	24 48	66 58	4 28	Karachi	261	0 00	0 00	0.0	0.0	0.0	
Arabian Sea Islands.												
47	Suadiva Atoll, Maldiv Islands	0 31	73 27	4 54	Karachi	261	+2 34	+2 30	-3.0	-0.4	0.0	
48	S. Male Atoll, Maldiv Islands	4 05	73 30	4 54	Karachi	261	+2 04	+2 00	-3.9	-0.5	0.0	
49	Malcolm Atoll, Maldiv Islands	6 17	72 33	4 50	Karachi	261	-0 17	-0 21	-4.0	-0.4	0.0	
50	Minikoi Light	8 16	73 01	4 52	Karachi	261	+0 48	+0 52	-4.2	-0.6	0.0	
51	Kiltan Island, Laccadive Islands ..	11 29	73 00	4 52	Karachi	261	-0 19	-0 23	-0.8	0.0	0.0	
52	Cherbaniani Reef, Laccadive Ids ..	12 20	71 52	4 47	Karachi	261	-0 44	-0 48	-1.0	0.0	0.0	
BALUCHISTAN.												
Local time.												
53	Sunmiani Harbor	25 25	66 35	4 26	Karachi	261	-2 26	-2 25	+0.7	+0.1	1.0	
54	Gwadar Bay	25 10	62 20	4 09	Karachi	261	-1 55	-1 54	+0.6	-0.2	1.0	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level atove plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn.).	Spring (Sg.).	Neap (Np.).	Great tropic (Gc.).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	11 43	5 18	10 17b	8 11a	0.6	0.9	0.2	2.2	-----	-----	21 57	2.1	1.1	1.0	4.0
2	10 53	4 40	9 56b	6 34a	0.5	1.2	0.1	2.6	-----	-----	-----	2.6	1.3	1.3	4.0
3	10 16	3 43	8 32b	6 58a	0.4	0.7	0.0	2.1	-----	-----	20 13	2.1	1.0	1.1	4.0
4	8 50	2 30	7 40b	4 49a	0.6	1.5	0.1	3.0	-----	-----	-----	3.0	1.5	1.5	3.5
5	11 30	5 10	11 52b	5 09a	14.3	17.6	10.4	24.2	2.8	6.9	-----	7.4	8.8	10.6	0.0
6	11 35	5 20	11 51b	5 19a	27.8	34.3	20.3	41.7	3.8	9.6	-----	10.4	17.2	18.7	1.5E.
7	8 05	1 50	8 25b	1 49a	18.4	22.7	13.4	29.6	3.1	7.7	-----	8.5	11.4	13.1	2.5E.
8	9 05	2 52	9 04b	3 07a	5.8	8.3	2.8	6.1	1.3	0.2	-----	1.3	4.2	2.7	0.0
9	9 40	3 27	9 38b	3 45a	4.4	6.3	2.1	4.6	1.1	0.2	21 33	1.1	3.2	2.0	0.5
10	9 50	3 37	9 49b	3 52a	6.0	8.6	2.9	6.3	1.3	0.2	-----	1.3	4.3	2.8	0.5
11	10 40	4 10	10 34a	4 18b	13.0	18.0	6.9	12.2	1.6	1.3	-----	2.0	9.0	6.0	1.0
12	10 50	4 20	10 43a	4 29b	11.2	15.6	5.9	10.4	1.5	1.2	-----	1.9	7.8	6.2	1.0
13	11 45	5 15	11 39a	5 23b	13.0	18.1	6.9	12.2	1.6	1.3	-----	2.0	9.0	6.0	1.0
14	2 12	8 49	2 06b	8 57b	13.9	19.2	7.4	13.0	1.6	1.4	11 52	2.1	9.6	6.5	1.0
15	3 07	10 49	3 05a	11 01a	8.6	11.7	5.0	8.3	1.4	0.8	3 11	1.4	5.8	4.1	1.5
16	3 29	10 03	3 22a	10 11a	13.2	18.1	7.3	12.7	1.7	1.4	0 51	2.2	9.0	6.3	1.0
17	4 26	11 07	4 20a	11 15a	12.8	15.5	9.3	12.8	1.7	1.3	2 07	2.0	7.7	6.3	1.0
18	3 05	9 55	3 00a	10 03a	13.7	18.7	7.8	13.9	1.7	1.1	-----	2.1	9.4	6.6	1.0
19	9 40	3 28	9 46b	3 13b	5.6	7.6	3.0	5.6	1.2	0.5	23 19	1.3	3.8	2.7	1.5
20	1 02	7 56	1 02a	7 44b	9.6	13.1	5.6	9.8	1.8	0.2	1 12	1.8	6.6	4.6	1.5
21	9 58	3 54	10 01b	3 46b	10.1	14.1	5.1	9.5	1.3	0.5	23 36	1.4	7.0	4.6	1.5
22	11 22	6 18	11 23b	6 10a	11.4	15.9	5.9	10.5	1.4	0.3	12 19	1.5	8.0	5.1	1.5
23	1 14	9 40	1 18a	9 51a	8.0	10.2	5.2	7.6	1.2	0.2	2 35	1.2	5.1	3.6	1.5
24	9 21	3 00	9 27b	2 46b	4.9	6.8	2.6	5.1	1.1	0.5	23 13	1.2	3.4	2.5	1.0
25	8 48	2 34	8 58b	2 16b	3.2	4.4	1.8	3.5	0.9	0.5	23 03	1.0	2.2	1.7	0.5
26	8 42	2 35	8 52b	2 18b	3.3	4.5	1.9	3.6	0.9	0.5	22 59	1.0	2.2	1.6	0.5
27	8 35	2 26	8 46b	2 06b	2.2	3.1	1.2	2.6	0.7	0.4	22 53	0.8	1.5	1.2	0.0
28	8 37	2 37	8 49b	2 14b	1.5	2.1	0.9	1.8	0.6	0.3	22 53	0.6	1.0	0.9	0.0
29	1 37	7 36	1 53a	6 54b	1.4	2.0	0.5	1.6	0.8	0.3	3 07	0.8	1.0	0.7	0.5W
30	1 52	7 51	2 05a	7 16b	2.1	3.0	0.8	2.4	1.0	0.4	-----	1.1	1.5	1.1	0.5
31	8 10	1 44	8 26b	1 01b	1.4	2.0	0.5	1.7	0.8	0.3	-----	0.9	1.0	0.8	0.5
32	2 02	8 07	2 11a	7 41b	1.2	1.9	0.4	1.2	0.4	0.2	3 19	0.4	1.0	0.6	0.5
33	1 47	7 47	1 58a	7 19b	1.4	2.0	0.5	1.8	0.6	0.3	3 15	0.7	1.0	0.8	0.5
34	0 18	6 16	1 19a	5 58b	2.0	2.5	1.3	3.2	0.7	1.9	-----	2.1	2.2	1.9	0.5
35	11 33	5 06	12 39b	4 44b	1.6	2.1	1.0	2.7	0.6	1.7	3 44	1.9	1.0	1.6	0.5
36	11 21	4 59	12 20b	4 41b	2.1	2.7	1.4	3.4	0.7	2.0	3 42	2.1	1.4	2.0	0.5
37	10 50	4 28	11 28b	4 16b	5.1	6.5	3.4	7.1	1.1	3.1	-----	3.4	3.2	4.0	0.0
38	10 34	4 11	11 24b	4 00b	3.8	5.0	2.4	5.4	0.7	3.0	3 13	3.1	2.5	3.2	0.0
39	10 34	4 10	11 24b	4 01b	4.0	5.2	2.5	5.5	0.7	3.1	3 17	3.2	2.6	3.4	0.5
40	11 27	5 07	11 53b	4 54b	8.8	11.9	4.9	11.0	2.1	3.8	3 12	4.2	6.0	5.9	0.5
41	4 27	11 18	4 33a	11 01b	23.0	29.8	15.1	25.6	6.3	2.3	5 57	6.7	14.9	11.9	1.0
42	2 01	7 43	2 27a	7 09b	6.8	9.5	3.7	9.3	3.7	2.9	4 31	4.8	4.8	4.5	1.0
43	12 05	5 39	12 33b	5 25b	8.2	10.8	5.2	10.6	2.0	3.8	3 46	4.3	5.4	5.7	1.0
44	0 46	7 04	1 02a	6 51b	13.0	15.5	9.8	15.4	2.8	3.6	4 24	4.5	7.8	7.9	1.0
45	1 24	8 20	1 41a	8 06b	14.5	16.8	11.6	16.5	2.5	3.4	5 20	4.6	8.4	8.5	1.0
46	10 14	3 58	11 00b	3 50b	5.6	7.4	3.5	7.5	0.8	4.0	3 11	4.0	3.7	4.4	1.5
47	0 50	6 55	1 31a	6 36b	2.9	3.8	1.8	4.3	1.0	2.1	-----	2.6	1.9	2.4	2.0
48	0 20	6 25	1 10a	6 04b	2.2	2.9	1.4	3.4	0.8	1.8	-----	2.2	1.4	1.9	1.0
49	10 20	4 00	11 12b	3 39b	2.1	2.7	1.3	3.3	0.8	1.8	-----	2.2	1.4	1.8	1.0
50	11 27	5 15	12 22b	4 51b	1.9	2.5	1.2	3.0	0.8	1.7	0 50	2.1	1.2	1.7	1.0
51	10 20	4 00	10 54b	3 46b	4.8	6.3	3.0	6.5	1.2	2.6	-----	3.3	3.2	3.5	0.5
52	9 50	3 30	10 26b	3 15b	4.7	6.2	2.9	6.5	1.2	2.6	-----	3.3	3.1	3.4	0.5
53	8 50	2 35	9 35b	2 30b	6.2	8.1	3.8	8.2	0.8	4.1	-----	4.2	4.0	4.8	2.0
54	9 20	3 05	10 08b	2 59b	6.1	8.1	3.7	8.3	0.7	4.5	-----	4.5	4.0	5.0	1.5
<i>East.</i>															

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				R. in feet.	Tide range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.			
			Arc.	Time.			HW.	LW.	HW.	LW.		
ASIA (SOUTH COAST)—Continued.												
PERSIA.												
Persian Gulf.												
		North.	East.				Local time.		Mean Loc. Water Springs.			
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.		
1	Jashak Bay.....	25 40	57 50	3 51	Karachi.....	261	- 1 55	- 1 54	+0.4	-0.2	1.6	
2	Kishm.....	26 56	56 15	3 45	Karachi.....	261	- 0 25	- 0 24	+3.8	+0.6	1.2	
3	Jezirat Kais.....	26 32	53 54	3 36	Hongkong.....	197	- 9 08	- 8 56	+1.6	-0.1	1.7	
4	Bushire.....	29 00	50 52	3 23	Hongkong.....	197	- 2 26	- 1 58	-2.0	-0.8	1.2	
5	Euphrates River Entrance.....	29 51	48 45	3 15	Hongkong.....	197	+ 1 43	+ 2 50	+4.2	-0.2	1.3	
ARABIA.												
Persian Gulf.												
6	Kuweit.....	29 24	47 58	3 12	Hongkong.....	197	+ 2 53	+ 3 07	+3.2	-0.2	1.4	
7	Menama, Bahrain Harbor.....	26 16	50 39	3 23	Hongkong.....	197	- 4 23	- 4 06	+1.4	-0.4	1.7	
8	Maskat.....	23 37	58 35	3 54	Karachi.....	261	- 1 45	- 1 39	-1.1	-0.1	1.0	
Outer coast.												
9	Ras-al-Hadd.....	22 34	59 50	3 59	Karachi.....	261	- 2 00	- 1 56	+1.4	+0.2	1.6	
10	Masira Island.....	20 28	58 57	3 56	Karachi.....	261	- 1 30	- 1 27	+2.0	+0.4	1.6	
11	Merbat.....	17 00	54 41	3 39	Aden.....	265	+ 1 01	+ 1 00	+1.9	+0.3	1.6	
12	Makalla.....	14 32	49 06	3 16	Aden.....	265	+ 0 31	+ 0 29	+1.7	+0.3	1.4	
13	ADEN.....	12 47	44 59	3 00	Aden.....	265	0 00	0 00	0.0	0.0	1.0	
Red Sea, east coast.												
14	Mocha or Mokha.....	13 19	43 12	2 53	Aden.....	265	+ 3 57	+ 3 56	-0.4	0.0	0.4	
15	Lohelya.....	15 45	42 40	2 51	Aden.....	265	+ 5 52	+ 5 50	-1.7	-0.3	0.4	
16	Jidda.....	21 28	39 08	2 37	Aden.....	265	+ 8 08	+ 8 06	-2.4	-0.4	0.4	
17	Hassani Island.....	25 00	37 00	2 28	Aden.....	265	+10 23	+10 21	-1.4	-0.2	0.4	
18	Akabah.....	29 30	35 00	2 20	Aden.....	265	-10 12	-10 13	-0.8	0.0	0.8	
AFRICA (EAST COAST).												
EGYPT, ABYSSINIA, ETC.												
Red Sea, west coast.												
19	Suez.....	29 56	32 33	2 10	Aden.....	265	- 9 26	- 9 28	+1.7	+0.3	1.4	
20	Zafarana Light.....	29 06	32 40	2 11	Aden.....	265	- 9 31	- 9 32	+0.6	+0.2	1.1	
21	Ras Gharib.....	28 21	33 06	2 12	Aden.....	265	- 9 36	- 9 37	-2.8	-0.4	0.8	
22	Brothers Islands.....	26 19	34 51	2 19	Aden.....	265	+11 18	+11 17	-2.4	-0.4	0.4	
23	Suakin.....	19 06	37 19	2 29	Aden.....	265	+ 6 48	+ 6 46	-2.8	-0.4	0.8	
24	Massaua or Massowah.....	15 37	39 27	2 38	Aden.....	265	+ 5 23	+ 5 21	-0.7	-0.1	0.4	
25	Perim Island, Babel Mandeb Str.....	12 38	43 24	2 54	Aden.....	265	+ 0 02	+ 0 01	+2.0	+0.4	1.4	
SOMALILAND.												
26	Zeila.....	11 24	43 28	2 54	Aden.....	265	- 0 18	- 0 19	+3.1	+0.5	1.7	
27	Cape Guardafui or Ras Asir.....	11 53	51 15	3 25	Aden.....	265	- 1 49	- 1 51	+1.0	+0.2	1.2	
28	Sokotra Island.....	12 40	53 55	3 36	Aden.....	265	- 0 44	- 0 21	+2.4	+0.4	1.5	
29	Warsheik Road.....	2 36	46 11	3 05	Aden.....	265	- 3 28	- 3 30	+2.6	+0.4	1.8	
30	Brava.....	1 08	44 04	2 56	Aden.....	265	- 3 33	- 3 35	+2.4	+0.4	1.7	
ZANZIBAR.												
		South.										
31	Juba.....	0 14	42 38	2 51	Aden.....	265	- 3 31	- 3 33	+3.6	+0.6	1.8	
32	Port Durnford.....	1 13	41 55	2 48	Aden.....	265	- 3 18	- 3 20	+6.0	+0.8	2.2	
33	Malindi.....	3 07	40 11	2 41	Aden.....	265	- 3 47	- 3 48	+6.3	+0.9	2.4	
34	Zanzibar.....	6 09	39 11	2 37	Aden.....	265	- 3 42	- 3 44	+8.4	+1.2	2.6	
35	Lindi River Entrance.....	10 00	39 44	2 39	Aden.....	265	- 3 52	- 3 53	+5.2	+0.8	2.4	
MOZAMBIQUE.												
36	Cape Delgado.....	10 41	40 39	2 43	Calcutta.....	245	+ 3 14	+ 1 00	+0.4	+0.6	0.9	
37	Mozambique Harbor.....	14 58	40 44	2 43	Calcutta.....	245	+ 3 15	+ 1 01	+0.8	+0.8	1.0	
38	Zambezi River Entrance.....	18 47	36 30	2 26	Calcutta.....	245	+ 3 31	+ 1 17	+2.4	+1.0	1.1	
39	Innamban River Entrance.....	23 45	35 32	2 22	Calcutta.....	245	+ 3 46	+ 1 32	+0.2	+0.6	0.8	
40	English River, Delagoa Bay.....	25 59	32 36	2 10	Calcutta.....	245	+ 4 26	+ 2 12	+1.0	+0.8	1.2	
ISLANDS IN THE INDIAN OCEAN.												
Madagascar.												
41	Diego Suarez Bay.....	12 15	49 30	3 18	Calcutta.....	245	+ 2 39	+ 0 25	-3.7	-0.1	0.8	
42	Port Choiseul, Antongil Bay.....	15 29	49 50	3 19	Calcutta.....	245	+ 2 59	+ 0 45	4.8	-0.2	0.4	
43	Tamatave.....	18 08	49 26	3 18	Calcutta.....	245	+ 3 14	+ 1 00	-3.0	0.0	0.2	
44	Fort Dauphin.....	25 01	47 01	3 08	Calcutta.....	245	+ 3 30	+ 1 16	-5.1	-0.3	0.6	
45	St. Augustine Bay.....	23 34	43 46	2 55	Calcutta.....	245	+ 4 55	+ 2 41	-0.8	+0.4	0.8	
46	Bembaatooka Bay.....	15 50	46 21	3 05	Calcutta.....	245	+ 3 30	+ 2 17	0.0	+0.6	0.8	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	9 20	3 05	10 09b	2 59b	5.9	7.8	3.6	8.1	0.7	4.4	.....	4.5	3.9	4.8	1.5
2	10 50	4 35	11 30b	4 30b	8.7	11.6	5.3	11.3	0.8	5.3	.....	5.4	5.8	6.6	1.5
3	0 30	6 40	0 17b	7 37b	5.3	6.6	3.8	8.0	4.5	1.2	.....	4.7	3.3	3.4	1.0
4	7 12	1 13	6 51b	2 44b	2.1	2.6	1.5	3.8	2.8	0.7	18 24	3.0	1.3	1.5	1.0
5	11 20	6 00	11 09b	6 48a	7.6	9.4	5.4	10.9	5.4	1.4	.....	5.7	4.7	4.7	1.0
6	0 05	6 17	— 0 07a	7 07a	6.7	8.3	4.8	9.7	4.9	1.3	.....	5.3	4.2	4.2	1.0 W.
7	5 15	11 30	5 01b	12 23b	5.2	6.4	3.7	7.9	4.4	1.2	.....	4.7	3.2	3.4	0.5 E.
8	9 30	3 20	10 26b	3 13b	4.6	6.0	2.8	6.5	0.6	3.9	2 44	3.9	3.0	3.9	1.0 E.
9	9 15	3 03	10 02b	2 57b	6.7	8.9	4.1	9.0	0.7	4.7	.....	4.8	4.4	5.4	1.0 E.
10	9 45	3 32	10 29b	3 27b	7.2	9.6	4.4	9.7	0.8	4.9	.....	4.9	4.8	5.7	1.0 E.
11	8 50	2 38	7 49a	2 50b	5.2	7.0	2.9	7.6	1.0	4.8	.....	4.8	3.5	4.6	0.0
12	8 20	2 07	7 18a	2 19b	5.0	6.8	2.8	7.4	1.0	4.7	.....	4.7	3.4	4.5	1.0 W.
13	7 48	1 37	6 34a	1 50b	3.6	4.8	2.0	5.8	0.9	4.0	2 28	4.0	2.4	3.5	2.0 W.
14	11 45	5 33	10 29a	5 48b	3.3	4.5	1.9	5.2	0.8	3.8	.....	3.8	2.2	3.2	West. 2.0
15	1 15	7 27	— 0 18b	7 45b	2.2	2.9	1.2	3.7	0.7	3.1	.....	3.1	1.4	2.4	2.0
16	3 30	9 42	1 36b	10 04b	1.5	2.0	0.8	3.0	0.6	2.6	.....	2.6	1.0	1.8	2.0
17	5 45	11 57	4 13b	12 15b	2.3	3.1	1.3	3.9	0.7	3.2	.....	3.2	1.6	2.5	2.0
18	10 00	3 48	8 38b	4 04a	2.9	3.9	1.6	4.7	0.8	3.6	.....	3.6	2.0	3.0	2.0
19	10 45	4 32	9 43b	4 44a	5.0	6.8	2.8	7.4	1.0	4.7	.....	4.7	3.4	4.5	3.0
20	10 40	4 28	9 31b	4 42a	4.1	5.5	2.3	6.3	0.9	4.3	.....	4.3	2.8	3.9	2.5
21	10 35	4 23	8 23b	4 49a	1.1	1.5	0.6	2.2	0.5	2.2	.....	2.2	0.8	1.5	2.5
22	6 40	0 28	4 46b	0 50a	1.5	2.0	0.8	2.3	0.6	2.6	.....	2.6	1.0	1.8	2.5
23	2 10	8 22	0 08b	8 46b	1.3	1.7	0.7	2.7	0.5	2.4	.....	2.4	0.8	1.7	3.0
24	0 45	6 57	— 0 36b	7 13b	3.0	4.0	1.7	4.7	0.8	3.7	.....	3.7	2.0	3.1	3.0
25	7 50	1 38	6 51a	1 50b	5.3	7.2	3.0	7.8	1.1	4.9	.....	4.9	3.6	4.7	2.5
26	7 30	1 18	6 34a	1 29b	6.2	8.5	3.5	9.0	1.2	5.3	.....	5.3	4.2	5.2	2.5
27	6 00	12 12	4 54a	12 25a	4.5	6.1	2.5	6.8	1.0	4.5	.....	4.5	3.0	4.0	1.0
28	7 05	1 17	6 06a	1 29b	5.6	7.5	3.1	8.2	1.1	5.0	.....	5.0	3.8	4.8	0.5
29	4 20	10 32	3 23a	10 43a	5.8	7.8	3.3	8.4	1.1	5.0	.....	5.0	3.9	4.9	3.5
30	4 15	10 27	3 16a	10 39a	5.6	7.5	3.1	8.2	1.1	5.0	.....	5.0	3.8	4.8	4.0
31	4 17	10 29	3 24a	10 40a	6.7	9.0	3.8	9.4	1.2	5.4	.....	5.4	4.5	5.5	4.5
32	4 30	10 42	3 43a	10 51a	8.7	11.7	4.9	11.9	1.4	6.2	.....	6.2	5.8	7.0	4.5
33	4 00	10 13	3 14a	10 22a	9.0	12.1	5.0	12.2	1.4	6.3	.....	6.3	6.0	7.1	5.5
34	4 05	10 17	3 23a	10 25a	10.7	14.5	6.0	14.2	1.5	6.9	.....	6.9	7.2	8.1	6.5
35	3 55	10 08	3 06a	10 18a	8.1	10.9	4.5	11.2	1.3	6.0	.....	6.0	5.4	6.5	7.5
36	3 59	10 11	4 00a	10 04a	7.8	11.3	3.3	9.0	0.6	0.2	.....	0.7	5.6	4.5	7.5
37	4 00	10 12	4 01a	10 06a	8.1	11.8	3.4	9.3	0.6	0.2	.....	0.7	5.9	4.6	9.5
38	4 15	10 27	4 16a	10 21a	9.3	13.5	3.9	10.6	0.7	0.2	.....	0.7	6.8	5.2	13.0
39	4 30	10 42	4 31a	10 36a	7.7	11.0	3.2	8.9	0.6	0.2	.....	0.6	5.5	4.4	17.0
40	5 10	11 22	5 11a	11 16a	8.2	11.9	3.4	9.5	0.7	0.2	.....	0.7	6.0	4.7	20.0
41	3 25	9 37	3 27a	9 29a	4.4	6.3	1.9	5.3	0.5	0.1	.....	0.5	3.2	2.5	6.0
42	3 45	9 57	3 47a	9 49a	3.5	5.1	1.5	4.2	0.4	0.1	.....	0.4	2.6	2.1	7.0
43	4 00	10 12	4 02a	10 05a	5.0	7.3	2.1	5.9	0.5	0.1	.....	0.5	3.6	2.8	8.5
44	4 15	10 27	4 17a	10 18a	3.2	4.7	1.3	3.9	0.4	0.1	.....	0.4	2.4	1.9	14.0
45	5 40	11 52	5 41a	11 45a	6.8	9.8	2.9	8.0	0.6	0.2	.....	0.6	4.9	4.0	14.0
46	4 15	11 28	4 16a	11 22a	7.5	10.9	3.2	8.7	0.6	0.2	.....	0.6	5.4	4.3	8.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Bar. range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
AFRICA (EAST COAST)—Cont'd.											
ISLANDS IN THE INDIAN OCEAN—continued.											
Lesser Islands.		South.	East.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Maroni Bay, Comoro Islands.....	11 41	43 21	2 53	Singapore	201	+6 58	+7 04	+1.4	+0.4	1.1
2	Zaudzi, Mayotta Island.....	12 50	45 16	3 01	Singapore	201	+6 13	+6 19	+3.0	+0.8	1.3
3	St. Pierre, Reunion or Bourbon I.....	21 16	55 35	3 42	Singapore	201	+1 36	+1 42	-4.0	-0.8	0.9
4	Port Louis, Mauritius Island.....	20 08	57 29	3 50	Singapore	201	+2 59	+3 04	-5.6	-1.2	0.9
5	Cargados, Carajos Shoals.....	16 36	59 45	3 59	Halifax	57	-6 13	-5 33	-1.4	+0.2	0.9
6	Rodriguez Island.....	19 45	63 25	4 14	Halifax	57	+4 41	+4 20	0.0	+0.4	0.9
7	Providence Island.....	9 13	51 01	3 24	Halifax	57	-2 12	-2 32	+1.8	-0.8	1.2
8	Mahé Island, Seychelle Islands.....	4 36	55 32	3 42	Halifax	57	-3 41	-4 01	-1.1	-0.3	0.9
9	Diego Garcia I., Chagos Islands.....	7 19	72 29	4 50	Halifax	57	+5 50	+6 30	+0.2	+0.4	0.9
10	Keeling Islands.....	12 07	96 55	6 28	Halifax	57	-2 50	-3 14	-0.4	+0.4	0.9
11	Christmas Island.....	11 30	105 30	7 02	Halifax	57	-1 00	-1 18	-1.0	+0.2	0.9
12	Amsterdam Island.....	37 50	77 33	5 10	Halifax	57	+2 44	+2 24	-2.0	0.0	0.9
13	St. Paul Island.....	38 39	77 34	5 10	Halifax	57	+2 34	+2 14	-2.2	0.0	0.9
14	Betsy Cove, Kerguelen Island.....	49 09	70 12	4 41	Halifax	57	+4 34	+4 23	-0.8	+0.2	0.9
AFRICA (EAST AND SOUTH COASTS).											
NATAL AND CAPE COLONY.											
15	Durban (Port Natal).....	29 53	31 04	2 04	Cape Town.....	269	+2 22	+2 24	+0.7	+0.3	1.2
16	East London, Buffalo River.....	33 02	27 55	1 52	Cape Town.....	269	+2 02	+2 04	+0.2	-0.2	1.4
17	Port Elizabeth, Algoa Bay.....	33 58	25 37	1 42	Cape Town.....	269	+1 46	+1 47	+0.6	-0.2	1.2
18	Aliwal Harbor, Mossel Bay.....	34 11	22 09	1 29	Cape Town.....	269	+1 43	+1 45	+0.8	+0.2	1.3
19	Cape Agulhas.....	34 50	20 01	1 20	Cape Town.....	269	+1 06	+1 08	+0.5	+0.1	1.3
20	Roman Rocks, Simons Bay.....	34 11	18 27	1 14	Cape Town.....	269	+1 01	+1 03	+0.5	+0.1	1.3
21	CAPE TOWN, Table Bay.....	33 54	18 25	1 14	Cape Town.....	269	0 00	0 00	0.0	0.0	1.4
22	Saldanha Bay.....	33 05	17 58	1 12	Cape Town.....	269	+0 46	+0 48	+0.4	+0.2	1.3
23	Port Nolloth.....	29 15	16 51	1 07	Cape Town.....	269	+0 51	+0 53	+0.6	0.0	1.3
AFRICA (WEST COAST).											
ORANGE RIVER TO KONGO RIVER.											
24	Elizabeth Bay.....	26 51	15 11	1 01	Cape Town.....	269	+1 01	+1 02	+0.8	+0.2	1.1
25	Port d'Ilheo.....	23 20	14 28	0 58	Cape Town.....	269	+1 17	+1 19	+3.9	+0.5	1.2
26	Great Fish Bay.....	16 40	11 52	0 47	Cape Town.....	269	+1 27	+1 28	+0.9	-0.1	1.2
27	Benguela.....	12 34	13 23	0 54	Cape Town.....	269	+1 57	+1 59	+0.8	+0.2	1.2
28	Loanda.....	8 43	13 21	0 53	Cape Town.....	269	+2 07	+2 09	+0.2	0.0	1.3
29	Kongo River Entrance.....	6 07	12 22	0 49	Cape Town.....	269	+2 37	+2 41	+1.2	+0.2	1.2
GUINEA.											
30	Loango Bay.....	4 38	11 46	0 47	Cape Town.....	269	+2 40	+2 42	+1.6	+0.2	1.4
31	Mayumba.....	3 21	10 40	0 43	Cape Town.....	269	+2 52	+2 54	+2.1	+0.3	1.5
32	Cape Lopez.....	0 48	8 42	0 35	Cape Town.....	269	+2 57	+2 59	+0.5	+0.1	1.3
33	River Gaboon Entrance.....	0 23	9 26	0 38	Cape Town.....	269	+3 37	+3 40	+3.0	+0.4	1.7
34	Kamerun River Entrance.....	3 52	9 38	0 39	Cape Town.....	269	+3 32	+3 34	+2.3	+0.3	1.5
35	Niger River, Nun Entrance.....	4 17	6 05	0 24	Cape Town.....	269	+3 18	+3 20	+0.7	+0.1	1.4
36	Lagos River Entrance.....	6 25	3 25	0 14	Cape Town.....	269	+3 18	+3 22	-1.2	-0.2	0.9
37	Volta River Entrance.....	5 47	0 41	0 03	Cape Town.....	269	+2 48	+2 50	-0.4	0.0	0.9
West.											
38	Cape Coast Castle.....	5 06	1 14	0 05	Cape Town.....	269	+2 49	+2 50	+1.2	+0.2	1.3
39	Cape Three Points.....	4 45	2 06	0 08	Cape Town.....	269	+2 29	+2 31	+0.1	+0.1	1.3
40	Grand Lahu.....	5 10	5 03	0 20	Cape Town.....	269	+2 39	+2 41	-0.2	0.0	0.9
LIBERIA.											
41	Cape Palmas.....	4 22	7 44	0 31	Cape Town.....	269	+2 59	+3 01	-0.2	0.0	0.9
42	Sinu.....	5 00	9 08	0 37	Cape Town.....	269	+3 20	+3 24	+0.2	0.0	1.0
43	Monrovia.....	6 19	10 49	0 43	Cape Town.....	269	+4 06	+4 25	-1.3	-0.2	0.9
SIERRA LEONE.											
44	Sherbro River, Buoy Point.....	7 42	12 42	0 51	Cape Town.....	269	+6 15	+6 19	+5.0	+0.8	2.2
45	Freetown or Sierra Leone.....	8 30	13 17	0 53	Cape Town.....	269	+6 10	+6 14	+0.1	+0.9	2.3
46	Ponga River.....	10 09	14 00	0 56	Cape Town.....	269	+6 00	+6 04	+6.0	+0.8	2.3
SENEGAMBIA.											
47	Bissao, Jeba River.....	11 39	16 01	1 04	Cape Town.....	269	+9 16	+9 20	+2.2	+0.4	1.3
48	Bathurst, Gambia River.....	13 28	16 42	1 07	Cape Town.....	269	+7 31	+7 35	+1.2	+0.2	1.3
49	Senegal River Entrance.....	16 40	16 30	1 06	Cape Town.....	269	+7 01	+7 05	+1.2	-0.2	1.3
50	St. Louis, Senegal River.....	16 11	16 00	1 04	Cape Town.....	269	+8 21	+8 25	+1.2	+0.2	1.3

Number	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	4 45	10 58	4 17b	11 02b	6.6	10.0	1.7	7.1	0.3	2.0	.....	2.0	5.0	3.9	7.0
2	4 00	10 13	3 34b	10 16b	7.9	11.9	2.0	8.4	0.8	2.2	.....	2.1	6.0	4.5	7.5
3	11 50	5 38	11 04a	5 44b	2.3	8.5	0.6	2.6	0.1	1.2	.....	1.1	1.8	1.5	9.0
4	0 48	7 00	— 0 22b	7 09b	1.1	1.6	0.3	1.2	0.1	0.8	7 29	0.8	0.8	0.7	8.5
5	1 50	8 03	1 33b	8 07b	2.8	4.0	1.2	2.7	0.2	0.7	.....	0.7	2.0	1.4	6.5
6	0 20	6 32	0 06b	6 36b	3.8	5.5	1.6	3.6	0.2	0.8	.....	0.8	2.8	2.0	8.5
7	5 50	12 08	5 37b	12 06b	5.4	7.8	2.3	5.2	0.3	0.9	.....	1.0	3.9	2.8	4.5
8	4 22	10 35	4 05b	10 39b	2.9	4.3	1.2	2.8	0.2	0.7	.....	0.7	2.2	1.5	3.5
9	1 30	7 43	1 16b	7 46b	4.0	5.8	1.7	3.8	0.2	0.8	.....	0.8	2.9	2.1	3.5
10	5 20	11 32	5 04b	11 36b	3.5	5.1	1.5	3.4	0.2	0.7	.....	0.8	2.6	1.8	3.0
11	7 10	1 00	6 54b	1 04a	3.1	4.5	1.3	3.0	0.2	0.7	.....	0.7	2.2	1.6	1.0
12	10 50	4 38	10 32b	4 42a	2.3	3.3	1.0	2.2	0.2	0.6	.....	0.6	1.6	1.2	25.5
13	10 40	4 28	10 20b	4 33a	2.1	3.0	0.9	2.0	0.2	0.7	.....	0.6	1.5	1.2	26.0
14	0 14	6 36	— 0 02a	6 40a	3.2	4.6	1.3	3.1	0.2	0.7	19 52	0.7	2.3	1.6	36.5
15	3 58	10 11	4 00b	10 02b	3.8	5.6	1.6	4.7	0.4	0.1	17 10	0.5	2.8	2.2	22.5
16	3 37	9 50	3 35b	9 58b	3.6	5.0	1.8	4.3	0.4	0.1	.....	0.4	2.5	2.1	25.0
17	3 21	9 33	3 19b	9 41b	3.9	5.4	1.9	4.6	0.4	0.1	14 34	0.4	2.7	2.2	26.0
18	3 18	9 31	3 16b	9 38b	4.0	5.6	2.0	4.7	0.4	0.1	.....	0.4	2.8	2.3	27.5
19	2 40	8 53	2 37b	9 02b	3.9	5.2	2.2	4.8	0.5	0.2	.....	0.5	2.6	2.4	28.5
20	2 35	8 48	2 32b	8 57b	3.9	5.2	2.2	4.7	0.5	0.1	.....	0.5	2.6	2.1	28.5
21	1 34	7 45	1 31b	7 52b	3.4	4.7	1.9	4.2	0.5	0.2	12 39	0.5	2.3	2.0	28.0
22	2 20	8 33	2 17b	8 42b	3.8	5.1	2.1	4.5	0.5	0.1	.....	0.5	2.6	2.1	28.0
23	2 25	8 38	2 23b	8 46b	4.0	5.3	2.2	4.7	0.5	0.1	.....	0.5	2.6	2.1	26.0
24	2 35	8 47	2 33b	8 55b	4.1	5.5	2.3	4.8	0.5	0.1	.....	0.5	2.8	2.2	25.0
25	2 50	9 03	2 48b	9 10b	6.8	9.0	3.7	7.8	0.6	0.2	.....	0.7	4.5	3.8	23.5
26	3 00	9 12	2 58b	9 20b	4.3	5.7	2.4	5.0	0.5	0.1	.....	0.5	2.8	2.3	20.5
27	3 30	9 43	3 28b	9 51b	4.1	5.5	2.3	4.8	0.5	0.1	.....	0.5	2.8	2.2	18.0
28	3 40	9 53	3 37b	10 02b	3.6	4.8	2.0	4.3	0.5	0.1	.....	0.5	2.4	2.0	16.0
29	4 10	10 25	4 08b	10 32b	4.5	6.0	2.5	5.4	0.5	0.2	.....	0.5	3.0	2.3	15.0
30	4 13	10 26	4 11b	10 34b	4.9	6.5	2.7	5.8	0.5	0.2	.....	0.6	3.2	2.8	14.5
31	4 25	10 38	4 23b	10 45b	5.3	7.0	2.9	6.3	0.6	0.2	.....	0.6	3.5	3.0	14.5
32	4 30	10 43	4 27b	10 52b	3.9	5.2	2.2	4.6	0.5	0.1	.....	0.5	2.6	2.0	14.0
33	5 10	11 24	5 08b	11 31b	6.0	8.0	3.3	7.0	0.6	0.2	.....	0.6	4.0	3.4	13.5
34	5 05	11 18	5 03b	11 25b	5.5	7.3	3.0	6.5	0.6	0.2	.....	0.6	3.6	3.2	13.0
35	4 50	11 03	4 48b	11 11b	4.1	5.4	2.3	4.8	0.5	0.1	.....	0.5	2.7	2.2	13.5
36	4 50	11 05	4 47b	11 16b	2.5	3.3	1.3	3.1	0.4	0.1	.....	0.4	1.6	1.4	13.5
37	4 20	10 33	4 17b	10 41b	3.2	4.2	1.8	3.8	0.4	0.1	.....	0.5	2.1	1.8	14.5
38	4 20	10 32	4 18b	10 39b	4.5	6.0	2.5	5.4	0.5	0.2	.....	0.5	3.0	2.3	15.5
39	4 00	10 13	3 57b	10 22b	3.5	4.7	1.9	4.2	0.5	0.1	.....	0.5	2.4	2.0	16.0
40	4 10	10 23	4 07b	10 33b	3.3	4.4	1.8	3.9	0.4	0.1	.....	0.5	2.2	1.9	17.0
41	4 30	10 43	4 27b	10 54b	3.2	4.3	1.8	3.8	0.4	0.1	.....	0.5	2.2	1.8	17.5
42	4 50	11 05	4 47b	11 14b	3.6	4.8	2.0	4.3	0.5	0.1	.....	0.5	2.4	2.0	18.0
43	5 36	12 06	5 18b	11 50a	2.3	3.0	1.5	2.6	0.3	0.5	.....	0.6	1.5	1.3	18.0
44	7 45	1 35	7 41b	1 39a	7.8	10.4	4.8	7.9	0.6	0.4	.....	0.6	5.2	3.9	18.0
45	7 40	1 30	7 36b	1 34a	8.7	11.6	5.3	8.8	0.6	0.4	.....	0.7	5.8	4.3	18.0
46	7 30	1 20	7 27b	1 24a	8.6	11.4	5.2	8.7	0.6	0.4	.....	0.6	5.7	4.3	18.0
47	10 45	4 35	10 41b	4 40a	5.4	7.2	3.3	5.5	0.5	0.3	.....	0.5	3.6	2.7	18.0
48	9 00	2 50	8 55b	2 56a	4.4	5.9	2.7	4.5	0.5	0.3	.....	0.5	3.0	2.2	18.0
49	8 30	2 20	8 25b	2 26a	4.5	6.0	2.7	4.6	0.5	0.3	.....	0.5	3.0	2.2	18.0
50	9 50	3 40	9 45b	3 46a	4.4	5.9	2.7	4.5	0.5	0.3	.....	0.5	3.0	2.2	18.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of fall.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
AFRICA (WEST COAST)—Cont'd.											
SAHARA.		North.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Cape Blanco.....	20 49	17 06	1 08	Cape Town.....	269	+10 06	+10 08	+0.8	+0.2	1.2
2	Cape Bojador.....	26 10	14 29	0 58	Cape Town.....	269	+10 20	+10 22	+2.3	+0.3	1.2
3	Cape Juby.....	27 57	12 54	0 52	Cape Town.....	269	+10 25	+10 27	+3.4	+0.4	1.2
ISLANDS.		South.									
4	Tristan da Cunha Island.....	37 10	12 15	0 49	Cape Town.....	269	+10 20	+10 24	+0.5	-0.1	1.2
5	St. Helena Island.....	15 54	5 44	0 23	Cape Town.....	269	+ 1 29	+ 1 28	-0.6	+0.8	0.7
6	Ascension Island.....	7 55	14 25	0 58	Cape Town.....	269	+ 3 50	+ 3 49	-2.3	-0.3	0.4
Cape Verde Islands.		North.									
7	Porto Praya, St. Jago Island.....	14 53	23 31	1 34	Cape Town.....	269	+ 4 22	+ 4 21	+0.2	0.0	1.2
8	Do Sino Point, Sal Island.....	16 34	22 56	1 32	Cape Town.....	269	+ 6 02	+ 6 06	-0.2	0.0	0.7
9	Porto Grande, St. Vincent Island.....	16 53	25 00	1 40	Cape Town.....	269	+ 4 22	+ 4 21	-1.2	-0.2	0.7
Canary Islands.											
10	Santa Cruz, Palma Island.....	28 40	17 45	1 11	Cape Town.....	269	- 1 09	- 1 10	+3.5	-0.5	1.2
11	Santa Cruz, Tenerife Island.....	28 28	16 15	1 05	Cape Town.....	269	- 0 14	- 0 13	+2.8	-0.4	1.2
12	Puerto de la Luz, Gran Canaria I.....	28 09	15 25	1 02	Cape Town.....	269	- 0 49	- 0 50	+4.0	-0.6	1.2
13	Port Naos, Lanzarote Island.....	28 57	13 33	0 54	Cape Town.....	269	- 0 40	- 0 41	+3.4	+0.4	1.2
Madeira Islands.											
14	Funchal Bay, Madeira Island.....	32 38	16 55	1 08	Cape Town.....	269	- 0 54	- 0 53	+1.8	+0.2	1.2
15	Porto Santo Bay.....	33 05	16 22	1 06	Cape Town.....	269	- 0 49	- 0 48	+1.8	-0.2	1.2
Azores Islands.											
16	Horta Bay, Fayal Island.....	38 32	28 38	1 55	Cape Town.....	269	- 2 23	- 2 27	-0.6	0.0	0.5
17	Angra Bay, Terceira Island.....	38 38	27 14	1 49	Cape Town.....	269	- 1 08	- 1 07	-0.2	0.0	0.5
18	Arnel Point, San Miguel Island.....	37 49	25 08	1 41	Cape Town.....	269	- 1 13	- 1 12	+0.9	+0.1	1.2
AFRICA (NORTH COAST).											
MOROCCO.											
19	Santa Cruz or Agadir.....	30 29	9 35	0 38	Lisbon.....	273	- 1 34	- 1 04	-2.8	-0.4	0.7
20	Mogador.....	31 31	9 43	0 39	Lisbon.....	273	- 0 59	- 0 29	-1.0	-0.2	0.2
21	Rabat.....	34 04	6 46	0 27	Lisbon.....	273	- 0 29	- 0 01	-1.4	-0.2	0.2
22	Tangier, Gibraltar Strait.....	35 47	5 48	0 23	Lisbon.....	273	- 0 34	- 0 06	-3.4	-0.6	0.2
23	Ceuta, Gibraltar Strait.....	35 54	5 17	0 21	Cape Town.....	269	+ 0 24	+ 0 25	-1.2	-0.2	0.5
Mediterranean Sea.											
24	Tetuan.....	35 37	5 11	0 21	Colombo.....	253	+ 0 14	+ 0 26	+0.4	0.0	1.2
25	Gomera.....	35 10	4 18	0 17	Colombo.....	253	+ 0 21	+ 0 23	+0.1	-0.1	1.2
26	Melilla.....	35 18	2 57	0 12	Colombo.....	253	+ 0 24	+ 0 36	+0.2	0.0	1.2
ALGERIA.											
			East.								
27	Cape Ivi.....	36 07	0 13	0 01	Colombo.....	253	+ 0 40	+ 0 52	+0.4	0.0	1.2
28	Algiers.....	36 47	3 04	0 12	Colombo.....	253	+ 0 59	+ 1 11	+0.6	0.0	1.2
29	Port Collo.....	37 00	6 35	0 26	Colombo.....	253	+ 0 21	+ 1 33	+0.8	0.0	1.2
TUNIS.											
30	Goletta, Tunis Entrance.....	36 48	10 18	0 41	Colombo.....	253	+ 1 45	+ 2 07	+0.8	+0.2	1.2
31	Sfax Road.....	34 44	10 46	0 43	Colombo.....	253	+ 1 47	+ 2 09	+1.8	+0.3	1.2
32	Nathor, Surkenis Bay.....	34 15	10 04	0 40	Colombo.....	253	+ 2 02	+ 2 14	+2.8	+0.6	1.2
33	Humt Suk, Jerba Island.....	33 53	10 51	0 43	Colombo.....	253	+ 2 22	+ 2 35	+2.6	+0.6	1.2
34	Zarzis.....	33 30	11 07	0 44	Colombo.....	253	+ 1 12	+ 1 24	+0.2	0.0	1.11
TRIPOLI.											
35	Tripoli.....	32 54	13 11	0 53	Colombo.....	253	+ 8 11	+ 8 26	0.0	0.0	0.8
36	Benghazi.....	32 07	20 03	1 20	Colombo.....	253	+ 8 05	+ 8 20	-0.7	-0.1	0.9
EGYPT.											
37	Alexandria.....	31 12	29 52	1 59	Colombo.....	253	+ 8 06	+ 8 12	-1.2	-0.2	0.2
38	Port Said.....	31 16	32 19	2 09	Colombo.....	253	+ 7 49	+ 8 04	-0.8	-0.2	0.2
ASIA (MEDITERRANEAN SEA).											
SYRIA.											
39	Yafa (Joppa or Jaffa).....	32 03	34 44	2 19	Colombo.....	253	+ 7 48	+ 8 03	-0.6	-0.2	0.5
40	Beirut.....	33 54	35 28	2 22	Colombo.....	253	+ 7 53	+ 8 08	-0.7	-0.1	0.5
ASIA MINOR AND ISLANDS.											
41	Famagusta, Cyprus Island.....	35 07	33 57	2 16	Colombo.....	253	+ 7 48	+ 8 03	-0.5	-0.1	0.7
42	Smyrna Harbor.....	38 25	27 08	1 49	Colombo.....	253	+ 7 24	+ 7 49	+0.4	0.0	1.2

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	11 35	5 23	11 30b	5 28a	4.1	5.5	2.5	4.2	0.5	0.3	.....	0.4	2.8	2.0	17.5
2	11 50	5 38	11 46b	5 43a	5.5	7.3	3.4	5.6	0.5	0.3	.....	0.5	3.6	2.7	17.0
3	11 55	5 43	11 51b	5 48a	6.4	8.5	3.9	6.5	0.6	0.3	.....	0.6	4.2	3.2	16.5
4	11 50	5 40	11 45a	5 45b	3.9	5.2	2.4	4.0	0.4	0.3	.....	0.4	2.6	1.9	24.5
5	3 00	9 10	2 54b	9 17b	2.1	2.8	1.3	2.2	0.3	0.2	.....	0.3	1.4	1.0	23.5
6	5 20	11 30	5 11b	11 41b	1.5	2.0	0.9	1.6	0.2	0.2	.....	0.3	1.0	0.7	22.0
7	5 50	12 00	5 45b	12 06b	3.6	4.8	2.2	3.7	0.4	0.2	.....	0.4	2.4	1.8	19.0
8	7 30	1 20	7 24b	1 26a	3.3	4.4	2.0	3.4	0.4	0.2	.....	0.4	2.2	1.6	19.0
9	5 50	12 00	5 41b	12 06b	2.5	3.3	1.5	2.6	0.3	0.2	.....	0.3	1.6	1.2	19.0
10	0 20	6 30	0 16a	6 35a	6.5	8.6	4.0	6.6	0.6	0.3	.....	0.6	4.3	3.2	18.0
11	1 15	7 27	1 11a	7 31a	5.9	7.8	3.6	6.0	0.5	0.3	.....	0.5	3.9	2.9	17.5
12	0 40	6 50	0 36a	6 55a	7.0	9.3	4.3	7.1	0.6	0.4	.....	0.6	4.6	3.5	17.0
13	0 50	7 00	0 46a	7 05a	6.4	8.5	3.9	6.5	0.5	0.3	.....	0.6	4.2	3.2	16.5
14	0 35	6 47	0 30a	6 52a	5.0	6.6	3.0	5.1	0.5	0.3	.....	0.5	3.3	2.5	18.0
15	0 40	6 52	0 35a	6 57a	5.0	6.6	3.0	5.1	0.5	0.3	.....	0.5	3.3	2.5	17.5
16	11 30	5 18	11 24b	5 25a	2.9	3.9	1.8	3.0	0.4	0.2	.....	0.4	2.0	1.4	22.5
17	0 20	6 32	0 14a	6 38a	3.3	4.4	2.0	3.4	0.4	0.2	.....	0.4	2.2	1.6	22.5
18	0 15	6 27	0 09a	6 33a	4.3	5.7	2.6	4.4	0.4	0.3	.....	0.5	2.8	2.1	21.5
19	0 30	6 42	0 26a	6 47a	6.6	8.8	4.0	6.7	0.5	0.3	.....	0.6	4.4	3.3	15.5
20	1 05	7 17	1 02a	7 21a	8.2	10.9	5.0	8.3	0.5	0.4	.....	0.6	5.4	4.1	15.5
21	1 35	7 45	1 31a	7 49a	7.8	10.4	4.8	7.9	0.6	0.4	.....	0.6	5.2	3.9	15.0
22	1 30	7 40	1 25a	7 45a	6.0	8.0	3.7	6.1	0.4	0.3	.....	0.6	4.0	3.0	15.0
23	1 55	8 07	1 49a	8 13a	2.5	3.3	1.5	2.6	0.3	0.2	.....	0.3	1.6	1.2	14.5
24	2 00	8 12	2 11a	7 50a	1.8	2.3	1.2	2.2	0.6	0.3	.....	0.7	1.2	1.0	14.5
25	2 07	8 19	2 18a	7 59a	1.6	2.1	1.1	1.9	0.5	0.3	.....	0.6	1.0	0.9	14.5
26	2 10	8 22	2 20a	8 03a	1.7	2.2	1.1	2.0	0.5	0.3	.....	0.6	1.1	0.9	14.0
27	2 27	8 39	2 38a	8 17a	1.8	2.3	1.2	2.2	0.6	0.3	.....	0.7	1.2	1.0	13.0
28	2 46	8 58	2 56a	8 37a	2.0	2.6	1.3	2.4	0.6	0.4	.....	0.7	1.3	1.1	12.0
29	3 09	9 21	3 18a	9 04a	2.2	2.8	1.5	2.6	0.6	0.4	.....	0.7	1.4	1.2	10.5
30	3 33	9 55	3 36a	9 45a	2.1	3.0	0.8	2.2	0.3	0.1	.....	0.3	1.5	1.1	9.5
31	3 35	9 57	3 37a	9 50a	2.9	4.2	1.1	3.0	0.3	0.1	.....	0.3	2.1	1.5	9.0
32	3 50	10 02	3 52a	9 54a	3.7	5.4	1.4	3.9	0.4	0.1	.....	0.4	2.7	1.9	9.5
33	4 10	10 23	4 12a	10 16a	3.5	5.1	1.4	3.6	0.3	0.1	.....	0.3	2.6	1.8	9.0
34	3 00	9 12	3 03a	9 03b	1.5	2.2	0.6	1.6	0.2	0.1	.....	0.2	1.1	0.8	9.0
35	10 00	3 50	10 03a	3 39a	1.3	1.9	0.5	1.4	0.2	0.1	.....	0.2	1.0	0.7	8.0
36	9 55	3 45	10 00a	3 27a	0.8	1.2	0.3	0.9	0.2	0.1	.....	0.2	0.6	0.4	6.0
37	9 57	3 38	10 05a	3 20b	0.4	0.5	0.3	0.9	0.2	0.0	.....	0.2	0.3	0.4	3.5
38	9 40	3 30	9 46a	3 09b	0.7	1.0	0.3	0.8	0.2	0.0	.....	0.2	0.5	0.4	2.5
39	9 40	3 30	9 45a	3 14a	0.9	1.3	0.4	1.0	0.2	0.0	.....	0.2	0.6	0.5	2.0
40	9 45	3 35	9 50a	3 17a	0.8	1.2	0.3	0.9	0.2	0.0	.....	0.2	0.6	0.4	1.5
41	9 40	3 30	9 44a	3 15a	1.0	1.4	0.4	1.1	0.2	0.0	.....	0.2	0.7	0.5	1.5
42	9 15	3 15	9 18a	3 06a	1.7	2.5	0.7	1.8	0.2	0.1	.....	0.2	1.2	0.9	4.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of rise to fall.
		Latitude.	Longitude.			Name.	Page.	Time.		Height.		
			Arc.	Time.				H.W.	L.W.	H.W.	L.W.	
EUROPE (MEDITERRANEAN SEA).												
GREECE.												
		North.	East.				Athens time, 25° 43' East.	Mean Low Water Springs.				
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.		
1	Volo, Gulf of Volo.....	39 22	22 58	1 32	Colombo.....	253	+7 28	+7 40	+0.3	-0.1	1.0	
2	Patras, Gulf of Corinth.....	38 15	21 44	1 27	Colombo.....	253	+1 56	+2 11	-0.8	-0.2	0.0	
AUSTRIA.												
Adriatic Sea.												
3	Ragusa.....	42 42	18 15	1 13	Colombo.....	253	+2 10	+2 25	-0.8	-0.2	0.0	
4	Port Comisa, Lissa Island.....	43 03	16 05	1 04	Colombo.....	253	+2 07	+2 37	+0.4	0.0	1.0	
5	Port Sebenico.....	43 43	15 51	1 03	Colombo.....	253	+4 18	+4 53	-0.8	-0.2	0.0	
6	Port Lussin Piccolo.....	44 53	14 26	0 58	Colombo.....	253	+6 23	+7 03	-0.7	-0.1	0.0	
7	Port Fiume.....	45 19	14 27	0 58	Colombo.....	253	+6 28	+7 13	-0.7	-0.1	0.0	
8	Port Pola.....	44 53	13 48	0 55	Colombo.....	253	+7 16	+8 06	+1.2	+0.2	1.0	
9	Trieste.....	45 38	13 45	0 55	Colombo.....	253	+7 44	+8 31	0.0	0.0	1.0	
ITALY AND ISLANDS.												
10	Port Malamocco.....	45 20	12 19	0 49	Colombo.....	253	+8 37	+9 32	+1.0	-0.2	1.0	
11	Brindisi.....	40 39	18 00	1 12	Colombo.....	253	+1 29	+1 42	-0.2	0.0	0.0	
12	Port Augusta, Sicily.....	37 13	15 14	1 01	Colombo.....	253	+1 10	+1 23	-1.0	-0.2	0.0	
13	Valetta Harbor, Malta.....	35 54	14 31	0 58	Colombo.....	253	+1 25	+1 38	-1.0	-0.2	0.0	
14	Naples.....	40 50	14 16	0 57	Colombo.....	253	+7 29	+7 39	-0.8	-0.2	0.0	
FRANCE.												
Mediterranean Sea.												
15	Toulon.....	43 05	5 55	0 24	Colombo.....	253	+6 19	+6 46	-1.2	-0.2	0.0	
16	Marseille.....	43 18	5 21	0 21	Colombo.....	253	+5 31	+6 25	-1.2	-0.2	0.0	
SPAIN.												
Mediterranean Sea.												
			West.				Greenwich time.					
17	Valencia.....	39 27	0 19	0 01	Colombo.....	253	+3 15	+3 45	-0.3	-0.1	0.0	
18	Malaga.....	36 43	4 24	0 18	Colombo.....	253	+0 47	+1 07	-0.8	0.0	1.0	
19	Gibraltar, Gibraltar Strait.....	36 07	5 21	0 21	Cape Town.....	269	+0 25	+0 34	-0.8	-0.2	0.0	
20	Tarifa, Gibraltar Strait.....	36 00	5 36	0 22	Cape Town.....	269	+0 23	+0 32	+0.8	-0.2	1.0	
EUROPE (WEST COAST).												
SPAIN—continued.												
21	Conil.....	36 17	6 15	0 25	Lisbon.....	273	-0 34	-0 03	0.0	0.0	1.0	
22	Cadiz.....	36 31	6 19	0 25	Lisbon.....	273	-0 39	-0 08	+0.7	+0.1	1.0	
23	Salmedina Rocks.....	36 42	6 26	0 26	Lisbon.....	273	-0 38	-0 07	-1.8	-0.2	0.0	
24	Bonanza, Guadalquivir River.....	36 48	6 20	0 25	Lisbon.....	273	-0 21	+0 52	-1.8	-0.2	0.0	
25	Port of Huelva, Odier River.....	37 08	6 50	0 27	Lisbon.....	273	+0 03	+0 34	-1.8	-0.2	0.0	
PORTUGAL.												
							Lisbon time, 9° 11' West.					
26	Guadiana River Entrance.....	37 10	7 19	0 29	Lisbon.....	273	-0 27	+0 04	0.0	0.0	1.0	
27	Lagos.....	37 07	8 38	0 35	Lisbon.....	273	-0 11	+0 20	+0.8	+0.2	1.0	
28	Setubal.....	38 31	8 46	0 35	Lisbon.....	273	+0 09	+0 40	-0.4	0.0	0.0	
29	Tagus River Entrance.....	38 40	9 15	0 37	Lisbon.....	273	-0 24	+0 07	-1.4	-0.2	0.0	
30	Lisbon (Arsenal), Tagus River.....	38 42	9 08	0 37	Lisbon.....	273	0 00	0 00	0.0	0.0	1.0	
31	Peniche.....	39 20	9 23	0 38	Lisbon.....	273	-0 23	+0 08	-0.7	-0.1	0.0	
32	Port Figueria, Mondego River.....	40 09	8 52	0 35	Lisbon.....	273	-0 21	+0 12	+0.4	0.0	0.0	
33	Oporto, Douro River.....	41 09	8 41	0 35	Lisbon.....	273	+0 09	+0 40	-1.8	-0.2	0.0	
SPAIN—continued.												
North and west coasts.												
							Greenwich time.					
34	Vigo.....	42 15	8 41	0 35	Lisbon.....	273	+1 31	+2 02	+0.8	+0.2	1.0	
35	Salvora Island, Arosa Bay.....	42 28	9 01	0 36	Lisbon.....	273	+1 17	+1 48	-0.8	-0.2	0.0	
36	Cape Finisterre.....	42 53	9 16	0 37	Lisbon.....	273	+1 18	+1 49	-1.0	-0.2	0.0	
37	Port Camarinas.....	43 08	9 09	0 37	Rochelle.....	277	-0 16	-0 06	-1.7	0.0	0.0	
38	Coruña.....	43 23	8 24	0 34	Rochelle.....	277	-0 19	-0 09	-1.5	+0.1	0.0	
39	Ferrol.....	43 29	8 16	0 33	Rochelle.....	277	-0 19	-0 09	-1.5	0.0	0.0	
40	Cedeira.....	43 39	8 05	0 32	Rochelle.....	277	-0 21	-0 11	-1.5	+0.1	0.0	
41	Vivero.....	43 41	7 32	0 30	Rochelle.....	277	-0 22	-0 12	-1.6	+0.1	0.0	
42	Rivadeo.....	43 33	7 00	0 28	Rochelle.....	277	-0 23	-0 13	-1.9	0.0	0.0	
43	Aviles River.....	43 38	5 56	0 24	Rochelle.....	277	-0 27	-0 17	-3.9	-0.3	0.0	
44	Gijon Bay.....	43 34	5 39	0 23	Rochelle.....	277	-0 23	-0 13	-2.4	-0.2	0.0	
45	San Vicente de la Barquera.....	43 24	4 25	0 18	Rochelle.....	277	-0 19	-0 08	-5.2	-0.7	0.0	
46	Suances, San Martin de la Arena.....	43 27	4 01	0 16	Rochelle.....	277	-0 21	-0 10	-4.0	-0.5	0.0	
47	Santander.....	43 28	3 47	0 15	Rochelle.....	277	-0 17	-0 07	-1.3	-0.1	0.0	
48	Santofia.....	43 28	3 28	0 14	Rochelle.....	277	-0 28	-0 19	-3.4	-0.3	0.0	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
1	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
12	9 15 3 40	3 02 9 53	9 18a 3 46a	2 53a 9 32b	1.6 0.7	2.3 1.0	0.6 0.3	1.7 0.8	0.2 0.2	0.1 0.0	..... .....	0.2 0.2	1.2 0.5	0.8 0.4	5.0 5.5
3	4 12	10 27	4 28a	9 47b	0.7	1.0	0.2	1.0	0.4	0.2	.....	0.5	0.5	0.4	7.0
4	4 00	10 30	4 03a	10 21b	1.7	2.4	0.7	1.8	0.2	0.1	.....	0.2	1.2	0.9	7.5
5	6 10	0 20	6 16a	0 01a	0.7	1.0	0.3	0.8	0.2	0.0	.....	0.2	0.5	0.4	8.0
6	8 10	2 25	8 15a	2 07a	0.8	1.1	0.3	0.9	0.2	0.0	.....	0.2	0.6	0.4	8.5
7	8 15	2 35	8 20a	2 17a	0.8	1.2	0.3	0.9	0.2	0.0	.....	0.2	0.6	0.4	8.5
8	9 00	3 25	9 03a	3 16a	2.3	3.4	0.9	2.4	0.3	0.1	.....	0.3	1.7	1.2	8.5
9	9 28	3 50	9 23a	3 40a	1.4	2.0	0.6	1.5	0.2	0.1	.....	0.2	1.0	0.7	8.5
10	10 15	4 45	10 18a	4 36a	2.3	3.3	0.9	2.4	0.3	0.1	.....	0.3	1.6	1.2	9.5
11	3 30	9 43	3 34a	9 31b	1.2	1.8	0.5	1.3	0.2	0.0	.....	0.2	0.9	0.6	7.0
12	3 00	9 13	3 04a	9 01b	0.6	0.9	0.2	0.6	0.1	0.0	.....	0.1	0.4	0.3	7.5
13	3 12	9 25	3 18a	9 06b	0.5	0.7	0.2	0.5	0.1	0.0	4 18	0.1	0.4	0.2	7.5
14	9 15	3 00	9 21a	2 41a	0.8	1.0	0.5	0.8	0.1	0.0	.....	0.1	0.5	0.4	8.0
15	8 22	2 24	8 43a	1 45a	0.4	0.6	0.2	0.6	0.3	0.2	10 28	0.3	0.3	0.3	11.5
16	7 31	2 00	7 51a	1 22a	0.5	0.6	0.3	0.7	0.3	0.2	9 49	0.3	0.3	0.3	12.0
17	5 00	11 30	5 13a	11 08a	1.2	1.5	0.8	1.5	0.4	0.2	.....	0.5	0.8	0.7	13.5
18	2 15	8 35	2 24a	8 18a	2.2	2.9	1.5	2.7	0.6	0.4	.....	0.7	1.4	1.2	14.5
19	1 35	7 55	1 29a	8 02a	2.8	3.7	1.7	2.9	0.4	0.2	.....	0.4	1.8	1.4	14.5
20	1 32	7 52	1 26a	7 59a	4.2	5.6	2.6	4.3	0.4	0.3	.....	0.6	2.8	2.1	15.0
21	1 05	7 18	1 01a	7 22a	8.9	12.0	5.2	8.9	0.7	0.4	.....	0.9	6.0	4.4	15.0
22	1 00	7 13	0 56a	7 17a	9.5	12.8	5.6	9.5	0.7	0.4	.....	0.9	6.4	4.7	15.0
23	1 00	7 13	0 56a	7 17a	7.4	10.0	4.3	7.4	0.6	0.4	.....	0.8	5.0	3.7	15.0
24	2 00	8 13	1 56a	8 17a	7.4	10.0	4.3	7.4	0.6	0.4	.....	0.8	5.0	3.7	15.0
25	1 40	7 53	1 36a	7 57a	7.4	10.0	4.3	7.4	0.6	0.4	.....	0.8	5.0	3.7	15.5
26	1 45	7 58	1 41a	8 02a	8.9	12.0	5.2	8.9	0.7	0.4	.....	0.9	6.0	4.4	15.5
27	1 55	8 08	1 51a	8 13a	9.6	13.0	5.6	9.6	0.7	0.4	.....	0.9	6.5	4.8	16.0
28	2 15	8 28	2 11a	8 33a	8.6	11.6	5.0	8.6	0.7	0.4	.....	0.9	5.8	4.3	16.0
29	1 40	7 53	1 36a	7 58a	7.8	10.5	4.6	7.8	0.7	0.4	.....	0.8	5.2	3.9	16.5
30	2 04	7 46	2 00a	7 51a	8.9	12.0	5.2	8.9	0.7	0.4	24 12	0.9	6.0	4.4	16.5
31	1 40	7 53	1 36a	7 58a	8.3	11.2	4.9	8.3	0.7	0.4	.....	0.9	5.6	4.1	16.5
32	1 45	8 00	1 41a	8 06a	9.3	12.5	5.4	9.3	0.7	0.4	.....	0.9	6.2	4.6	16.5
33	2 15	8 28	2 11a	8 34a	7.4	10.0	4.3	7.4	0.6	0.4	.....	0.8	5.0	3.7	16.5
34	3 00	9 13	2 56a	9 17a	9.6	13.0	5.6	9.6	0.7	0.4	.....	0.9	6.5	4.8	17.0
35	2 45	8 58	2 41a	9 03a	8.2	11.0	4.8	8.2	0.7	0.4	.....	0.9	5.5	4.1	17.0
36	2 45	8 58	2 41a	9 03a	8.1	10.9	4.7	8.1	0.7	0.4	.....	0.9	5.4	4.0	17.5
37	2 43	8 56	2 42a	8 59a	10.7	14.6	6.0	10.9	0.4	0.2	.....	0.4	7.3	5.5	17.5
38	2 43	8 56	2 42a	8 59a	10.8	14.8	6.1	11.0	0.4	0.2	.....	0.4	7.4	5.5	17.0
39	2 44	8 57	2 43a	9 00a	10.9	14.9	6.1	11.1	0.4	0.2	.....	0.4	7.4	5.6	17.0
40	2 43	8 56	2 42a	8 59a	10.8	14.8	6.1	11.0	0.4	0.2	.....	0.4	7.4	5.5	17.0
41	2 44	8 57	2 43a	9 00a	10.7	14.7	6.0	10.9	0.4	0.2	.....	0.4	7.4	5.5	17.0
42	2 45	8 58	2 44a	9 01a	10.5	14.4	5.9	10.7	0.4	0.2	.....	0.4	7.2	5.4	16.5
43	2 45	8 58	2 44a	9 02a	8.8	12.0	4.9	9.0	0.4	0.2	.....	0.4	6.0	4.5	16.0
44	2 50	9 03	2 47a	9 08a	10.2	13.5	6.3	10.7	0.8	0.5	.....	0.9	6.8	5.3	16.0
45	3 00	9 14	2 56a	9 19a	7.9	10.4	4.9	8.3	0.7	0.5	.....	0.8	5.2	4.1	15.5
46	3 00	9 14	2 56a	9 19a	8.9	11.7	5.5	9.3	0.7	0.5	.....	0.9	5.8	4.6	15.5
47	3 05	9 18	3 02a	9 23a	11.2	14.8	6.9	11.7	0.8	0.5	.....	1.0	7.4	5.8	15.5
48	2 55	9 07	2 52a	9 12a	9.3	12.3	5.7	9.7	0.7	0.5	.....	0.9	6.2	4.8	15.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.	
EUROPE (WEST COAST)—Cont'd.											
SPAIN—continued.											
North and west coasts—Continued.											
		North.	West.				Greenwich time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Castro Urdiales.....	43 24	3 16	0 13	Rochelle.....	277	-0 34	-0 24	-3.9	-0.4	0.7
2	Bilbao River Entrance.....	43 23	3 04	0 12	Rochelle.....	277	-0 55	-0 54	-3.2	-0.2	0.7
3	Bilbao.....	43 16	2 56	0 12	Rochelle.....	277	-0 45	-0 50	-6.5	-0.8	0.4
4	Lekeitio.....	43 23	2 34	0 10	Rochelle.....	277	-0 32	-0 25	-5.1	-0.7	0.7
5	San Sebastian.....	43 19	2 00	0 08	Rochelle.....	277	-0 34	-0 27	-4.0	-0.5	0.7
FRANCE—continued.											
Bay of Biscay.											
							Paris time, 2° 20' East.				
6	St. Jean de Luz (Fort Socoa).....	43 24	1 40	0 07	Rochelle.....	277	-0 14	-0 10	-3.4	-0.3	1.7
7	Boucaut, Adour River.....	43 34	1 31	0 06	Rochelle.....	277	+0 13	+0 22	-6.9	-0.8	0.7
8	Cape Feret.....	44 38	1 14	0 05	Rochelle.....	277	+0 27	+0 42	-3.2	-0.4	0.7
9	Arcachon Basin.....	44 40	1 09	0 05	Rochelle.....	277	+1 02	+1 18	-3.1	-0.3	0.7
10	Cordouan Light, Gironde River.....	45 35	1 10	0 05	Rochelle.....	277	-0 12	+0 27	+0.5	+0.2	1.3
11	Royan, Gironde River.....	45 37	1 02	0 04	Rochelle.....	277	+0 14	+0 38	+0.4	+0.2	1.3
12	Montagne, Gironde River.....	45 29	0 48	0 03	Rochelle.....	277	+0 49	+1 29	+0.3	+0.1	1.2
13	Maréchal, Gironde River.....	45 19	0 46	0 03	Rochelle.....	277	+1 10	+2 00	+0.4	+0.2	1.2
14	Paulliac, Gironde River.....	45 12	0 45	0 03	Rochelle.....	277	+1 26	+2 27	+1.6	-0.3	1.3
15	Blaye, Gironde River.....	45 07	0 40	0 03	Rochelle.....	277	+1 52	+3 07	+0.3	-0.1	1.0
16	Bordeaux, Gironde River.....	44 50	0 34	0 02	Rochelle.....	277	+3 04	+3 08	-0.9	-0.1	0.8
17	Marennes, Seudre River Entrance.....	45 48	1 09	0 05	Rochelle.....	277	-0 02	+0 16	-2.7	-0.3	0.8
18	Ile d'Alx, Charente River.....	46 01	1 11	0 05	Rochelle.....	277	+0 04	+0 04	+0.3	+0.1	1.0
19	Rochefort, Charente River.....	45 57	0 58	0 04	Rochelle.....	277	+0 21	+0 28	+0.4	+0.2	1.0
20	ROCHELLE.....	46 09	1 09	0 05	Rochelle.....	277	0 00	0 00	0.0	0.0	1.0
21	St. Martin, Ile de Ré.....	46 12	1 22	0 05	Rochelle.....	277	-0 23	-0 03	+0.5	-0.2	1.0
22	Les Sables d'Olonne.....	46 29	1 48	0 07	Rochelle.....	277	-0 01	+0 20	-3.1	-0.3	1.0
23	St. Gilles.....	46 42	1 57	0 08	Rochelle.....	277	0 00	+0 19	-1.6	-0.1	1.0
24	Isle d'Yeu.....	46 43	2 23	0 10	Rochelle.....	277	0 00	+0 19	-1.3	0.0	1.0
25	Fromantine Channel.....	46 53	2 09	0 09	Rochelle.....	277	-0 19	-0 01	-3.2	-0.3	0.7
26	Port l'Herbanière, Noirmoutier I.....	47 02	2 18	0 09	Rochelle.....	277	-0 14	+0 04	+0.4	+0.2	1.1
27	Port Pornic.....	47 07	2 07	0 08	Rochelle.....	277	-0 20	-0 02	+0.2	+0.1	1.1
28	St. Nazaire, Loire River.....	47 16	2 12	0 09	Rochelle.....	277	+0 16	+0 34	+0.3	+0.1	1.0
29	Palmbœuf, Loire River.....	47 17	2 03	0 08	Rochelle.....	277	+0 58	+1 16	+0.7	+0.2	1.0
30	Pellerin, Loire River.....	47 13	1 45	0 07	Rochelle.....	277	+1 39	+2 04	+0.1	+0.2	0.9
31	Nantes, Loire River.....	47 12	1 33	0 06	Rochelle.....	277	+2 28	+3 08	+0.2	-0.1	1.0
32	Poulliguen.....	47 16	2 25	0 10	Rochelle.....	277	-0 03	+0 17	+0.3	-0.1	1.0
33	Croisic.....	47 18	2 31	0 10	Rochelle.....	277	+0 07	+0 26	+0.4	+0.2	1.0
34	Penerf, Vilaine River.....	47 31	2 30	0 10	Rochelle.....	277	+0 12	+0 32	+0.5	+0.2	1.0
35	Port Navalo, Quiberon Bay.....	47 33	2 55	0 12	Rochelle.....	277	+0 29	+0 49	+0.3	+0.1	1.0
36	Vannes.....	47 40	2 45	0 11	Rochelle.....	277	+2 30	+2 51	-0.4	0.0	0.9
37	Aray.....	47 41	2 58	0 12	Rochelle.....	277	+0 44	+1 04	0.0	+0.1	0.9
38	Crac'h River.....	47 34	3 00	0 12	Rochelle.....	277	+0 14	+0 34	+0.4	+0.2	1.0
39	Port Haliguen, Quiberon Bay.....	47 29	3 06	0 12	Rochelle.....	277	+0 19	+0 39	+0.5	+0.1	1.0
40	Hoedic Island.....	47 20	2 52	0 11	Rochelle.....	277	+0 03	+0 26	+0.4	+0.2	1.0
41	Port le Palais, Belle Isle.....	47 21	3 09	0 13	Rochelle.....	277	+0 10	+0 32	+0.3	+0.1	1.0
42	Port Louis.....	47 42	3 21	0 13	Brest.....	281	-0 28	-0 18	-5.0	-0.8	0.9
43	Lorient.....	47 45	3 22	0 13	Brest.....	281	-0 19	-0 14	-5.0	-0.8	0.9
44	Concarneau.....	47 53	3 54	0 16	Brest.....	281	-0 25	-0 20	-5.9	-0.9	0.7
45	Glenan Islands.....	47 46	4 02	0 16	Brest.....	281	-0 25	-0 20	-5.8	-0.8	0.9
46	Benodet, Odet River.....	47 52	4 07	0 16	Brest.....	281	-0 10	-0 04	-3.8	-0.6	0.9
47	Loctudy.....	47 50	4 10	0 17	Brest.....	281	-0 04	0 00	-3.8	-0.6	0.9
48	Penmarch.....	47 48	4 23	0 18	Brest.....	281	-0 18	-0 11	-5.6	-0.8	0.9
49	Audierne.....	48 01	4 33	0 18	Brest.....	281	-0 19	-0 14	-7.4	-1.0	0.7
English Channel.											
50	Isle de Sein.....	48 03	4 52	0 19	Brest.....	281	+0 03	+0 09	-2.0	-0.4	1.0
51	Douarnenez.....	48 06	4 19	0 17	Brest.....	281	-0 04	+0 02	-1.0	-0.2	1.0
52	Camaret.....	48 17	4 36	0 18	Brest.....	281	+0 12	+0 17	-1.2	-0.2	1.0
53	BREST.....	48 23	4 30	0 18	Brest.....	281	0 00	0 00	0.0	0.0	1.0
54	Port Conquet.....	48 22	4 47	0 19	Brest.....	281	+0 08	+0 11	-0.2	-0.2	0.9
55	Molène.....	48 19	4 55	0 20	Brest.....	281	+0 24	+0 27	-0.3	-0.1	0.9
56	Ushant or Ouessant Island.....	48 28	5 08	0 21	Brest.....	281	+0 15	+0 18	-0.6	-0.2	0.9
57	Aberwrach.....	48 37	4 35	0 18	Brest.....	281	+0 37	+0 40	+1.0	0.0	1.0
58	Isle de Bas.....	48 45	4 02	0 16	Brest.....	281	+1 10	+1 13	+2.2	+0.2	1.0
59	Roscoff.....	48 43	3 59	0 16	Brest.....	281	+1 15	+1 18	+2.1	+0.3	1.0
60	Morlaix.....	48 40	3 53	0 16	Brest.....	281	+1 35	+1 38	+3.2	+0.4	1.0
61	Ploumanach.....	48 50	3 29	0 14	Brest.....	281	+1 43	+1 46	+3.2	+0.4	1.0
62	Plougrescant, Tréguier River.....	48 51	3 11	0 13	Brest.....	281	+1 47	+1 50	+4.6	+0.6	1.0
63	Tréguier, Tréguier River.....	48 46	3 14	0 13	Brest.....	281	+1 57	+2 00	+2.8	+0.4	1.0
64	Heaux Light.....	48 55	3 05	0 12	Brest.....	281	+2 07	+2 09	+9.4	+1.4	1.0

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	2 50	9 03	2 46a	9 08a	8.9	11.8	5.5	9.3	0.7	0.5	.....	0.9	5.9	4.6	15.0
2	3 10	9 22	3 07a	9 38a	9.4	12.7	5.9	10.0	0.7	0.5	.....	0.9	6.4	5.0	15.0
3	3 20	9 42	3 16a	9 45a	6.7	8.9	4.1	7.1	0.6	0.4	.....	0.7	4.4	3.5	15.0
4	2 55	9 05	2 52a	9 10a	8.0	10.5	4.9	8.4	0.7	0.5	.....	0.8	5.2	4.2	15.0
5	2 55	9 05	2 51a	9 10a	8.9	11.7	5.5	9.3	0.7	0.5	.....	0.9	5.8	4.6	14.5
6	3 07	9 14	3 04a	9 18a	9.3	12.3	5.8	9.8	0.7	0.5	0 47	0.9	6.2	4.8	14.5
7	3 35	9 47	3 31a	9 52a	6.3	8.3	3.9	6.6	0.6	0.4	.....	0.7	4.2	3.3	14.5
8	3 50	10 08	3 46a	10 13a	9.6	12.6	5.9	10.0	0.7	0.5	.....	0.9	6.3	5.0	14.5
9	4 25	10 44	4 21a	10 49a	9.6	12.7	5.9	10.0	0.7	0.5	.....	0.9	6.4	5.0	14.5
10	3 35	9 53	3 32a	9 57a	12.7	16.8	7.8	12.8	0.7	0.5	.....	0.9	8.4	6.3	14.5
11	3 38	10 05	3 35a	10 09a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	14.5
12	4 14	10 57	4 11a	11 01a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	14.5
13	4 35	11 28	4 32a	11 32a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	14.5
14	4 51	11 55	4 49a	11 59a	13.7	18.1	8.4	13.8	0.8	0.5	.....	0.9	9.0	6.8	14.5
15	5 17	0 10	5 14a	0 14a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	14.5
16	6 30	0 12	6 27a	0 16a	11.6	15.3	7.1	11.7	0.7	0.5	.....	0.9	7.6	5.8	14.5
17	3 25	9 42	3 22a	9 46a	10.0	13.2	6.2	10.1	0.6	0.4	.....	0.8	6.6	5.0	14.5
18	3 27	9 22	3 25a	9 26a	12.6	16.6	7.7	12.7	0.7	0.5	0 57	0.9	8.3	6.3	14.5
19	3 45	9 55	3 42a	9 59a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	14.5
20	3 23	9 26	3 20a	9 30a	12.4	16.2	7.7	12.5	0.7	0.5	1 15	0.9	8.1	6.2	14.5
21	3 00	9 23	2 57a	9 27a	12.7	16.8	7.8	12.8	0.7	0.5	.....	0.9	8.4	6.3	15.0
22	3 20	9 44	3 17a	9 48a	9.6	12.7	5.9	9.7	0.6	0.4	.....	0.8	6.4	4.8	15.0
23	3 20	9 42	3 17a	9 46a	10.9	14.4	6.7	11.0	0.7	0.4	.....	0.8	7.2	5.4	15.0
24	3 18	9 40	3 15a	9 44a	11.1	14.7	6.8	11.2	0.7	0.4	.....	0.8	7.4	5.5	15.5
25	3 00	9 21	2 57a	9 25a	9.5	12.6	5.8	9.6	0.6	0.4	.....	0.8	6.3	4.7	15.5
26	3 05	9 26	3 02a	9 30a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	15.5
27	3 00	9 21	2 57a	9 25a	12.5	16.5	7.7	12.6	0.7	0.5	.....	0.9	8.2	6.2	15.5
28	3 35	9 56	3 32a	10 00a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	15.5
29	4 18	10 39	4 15a	10 43a	12.9	17.0	7.9	13.0	0.7	0.5	.....	0.9	8.5	6.4	15.5
30	5 00	11 28	4 57a	11 32a	12.3	16.3	7.6	12.4	0.7	0.5	.....	0.9	8.2	6.1	15.0
31	5 50	12 28	5 47a	12 32a	12.5	16.5	7.7	12.6	0.7	0.5	.....	0.9	8.2	6.2	15.0
32	3 15	9 38	3 12a	9 42a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	15.5
33	3 25	9 47	3 22a	9 51a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	15.5
34	3 30	9 53	3 27a	9 57a	12.7	16.8	7.8	12.8	0.7	0.5	.....	0.9	8.4	6.3	15.5
35	3 45	10 08	3 42a	10 12a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	16.0
36	5 47	12 11	5 44a	12 15a	12.0	15.8	7.4	12.1	0.7	0.5	.....	0.9	7.9	6.0	15.5
37	4 00	10 23	3 57a	10 27a	12.3	16.2	7.6	12.4	0.7	0.5	.....	0.9	8.1	6.1	16.0
38	3 30	9 53	3 27a	9 57a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	16.0
39	3 35	9 58	3 32a	10 02a	12.8	16.9	7.9	12.9	0.7	0.5	.....	0.9	8.4	6.4	16.0
40	3 20	9 46	3 17a	9 50a	12.6	16.7	7.7	12.7	0.7	0.5	.....	0.9	8.4	6.3	15.5
41	3 25	9 50	3 22a	9 54a	12.6	16.6	7.7	12.7	0.7	0.5	.....	0.9	8.3	6.3	16.0
42	3 05	9 32	3 03a	9 36a	10.4	13.8	6.3	10.6	0.6	0.5	.....	0.7	6.9	5.0	16.0
43	3 09	9 36	3 07a	9 40a	10.4	13.8	6.3	10.6	0.6	0.5	.....	0.7	6.9	5.0	16.0
44	3 00	9 27	2 58a	9 31a	9.7	12.9	5.9	9.9	0.6	0.4	.....	0.7	6.4	4.7	16.5
45	3 00	9 27	2 58a	9 31a	9.8	13.0	6.0	10.0	0.6	0.5	.....	0.7	6.5	4.8	16.5
46	3 15	9 43	2 13a	9 47a	11.6	15.3	7.1	11.8	0.7	0.5	.....	0.8	7.6	5.6	16.5
47	3 20	9 46	2 18a	9 50a	11.5	15.2	7.0	11.7	0.7	0.5	.....	0.8	7.6	5.6	16.5
48	3 05	9 34	2 03a	9 38a	10.0	13.3	6.1	10.2	0.6	0.5	.....	-0.7	6.6	4.8	16.5
49	3 04	9 31	3 02a	9 35a	8.4	11.1	5.1	8.6	0.6	0.4	.....	0.7	5.6	4.1	16.5
50	3 25	9 53	3 23a	9 56a	13.0	17.2	7.9	12.8	0.7	0.5	.....	0.8	8.6	6.4	17.0
51	3 20	9 48	3 18a	9 51a	13.8	18.3	8.4	13.6	0.7	0.5	.....	0.9	9.2	6.8	16.5
52	3 35	10 02	3 33a	10 05a	13.7	18.2	8.3	13.5	0.7	0.5	.....	0.9	9.1	6.8	17.0
53	3 23	9 45	3 21a	9 48a	14.7	19.5	9.0	14.5	0.8	0.4	1 06	0.9	9.8	7.2	17.0
54	3 30	9 55	3 28a	9 58a	14.6	19.3	8.9	14.4	0.8	0.6	.....	0.9	9.6	7.1	17.0
55	3 45	10 10	3 43a	10 13a	14.5	19.2	8.8	14.3	0.8	0.6	.....	0.9	9.6	7.1	17.0
56	3 35	10 00	3 33a	10 03a	14.3	18.9	8.7	14.1	0.8	0.6	.....	0.9	9.4	7.0	17.0
57	4 00	10 25	3 58a	10 28a	15.6	20.6	9.5	15.4	0.8	0.6	.....	0.9	10.3	7.6	17.0
58	4 35	11 00	4 33a	11 03a	16.6	22.0	10.1	16.4	0.8	0.6	.....	0.9	11.0	8.1	16.5
59	4 40	11 05	4 38a	11 08a	16.5	21.9	10.0	16.3	0.8	0.6	.....	0.9	11.0	8.1	16.5
60	5 00	11 25	4 58a	11 28a	17.4	23.1	10.6	17.2	0.8	0.6	.....	1.0	11.6	8.6	16.5
61	5 10	11 35	5 08a	11 38a	17.6	23.3	10.7	17.4	0.8	0.6	.....	1.0	11.6	8.6	16.5
62	5 15	11 40	5 13a	11 43a	18.7	24.8	11.4	18.5	0.9	0.6	.....	1.0	12.4	9.2	16.0
63	5 25	11 50	5 23a	11 53a	17.1	22.7	10.4	16.9	0.8	0.6	.....	0.9	11.4	8.4	16.0
64	5 35	12 00	5 33a	12 02a	22.7	30.4	13.3	22.2	0.8	0.9	.....	1.1	15.2	11.1	16.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
EUROPE (WEST COAST)—Cont'd.											
FRANCE—continued.											
English Channel—Continued.											
		North.	West.				Paris time, 20° East.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Brehat.....	48 51	3 00	0 12	Brest.....	281	+2 04	+2 07	+9.4	-1.4	1.3
2	Lézardrieux.....	48 48	3 01	0 12	Brest.....	281	+2 06	+2 09	+11.0	+1.6	1.6
3	Palmpol.....	48 47	3 02	0 12	Brest.....	281	+2 09	+2 12	+10.4	+1.6	1.6
4	Portrieux.....	48 39	2 49	0 11	Brest.....	281	+2 10	+2 15	+10.1	+1.5	1.5
5	Binic Harbor.....	48 36	2 49	0 11	Brest.....	281	+2 12	+2 20	+9.0	+1.4	1.5
6	Légue or Port de St. Briene.....	48 32	2 43	0 11	Brest.....	281	+2 10	+2 24	+10.8	+1.6	1.6
7	Dahouet.....	48 30	2 36	0 10	Brest.....	281	+2 06	+2 22	+10.4	+1.6	1.6
8	Erquy.....	48 38	2 26	0 10	Brest.....	281	+2 08	+2 27	+11.6	+1.8	1.6
9	St. Malo.....	48 39	2 02	0 08	Brest.....	281	+2 10	+2 34	+14.2	+2.2	1.6
10	Cancale.....	48 40	1 51	0 07	Brest.....	281	+2 08	+2 34	-14.5	+2.7	1.5
11	Granville.....	48 50	1 36	0 06	Brest.....	281	+2 15	+2 37	-15.0	+2.2	1.4
12	Regneville.....	49 00	1 35	0 06	Brest.....	281	+2 22	+2 39	+13.2	+2.0	1.4
13	St. Germain.....	49 14	1 35	0 06	Brest.....	281	+2 27	+2 41	+12.2	+1.8	1.4
14	Carteret.....	49 22	1 47	0 07	Brest.....	281	+2 35	+2 44	+9.8	+1.4	1.4
15	Dielette.....	49 33	1 52	0 07	Brest.....	281	+2 47	+2 59	+6.2	+1.0	1.3
16	Chausey Islands.....	48 52	1 49	0 07	Brest.....	281	+2 21	+2 33	+13.2	+2.0	1.5
17	Les Minquiers.....	48 59	2 04	0 08	Brest.....	281	+2 13	+2 06	+13.2	+2.0	1.5
18	St. Hélier, Jersey Island.....	49 10	2 07	0 08	Brest.....	281	+2 36	+2 30	+10.1	+1.5	1.5
19	St. Peter Port, Guernsey Island.....	49 27	2 32	0 10	Brest.....	281	+2 41	+2 39	+5.6	+0.8	1.5
20	Casquets Islands.....	49 43	2 23	0 10	Brest.....	281	+2 49	+2 47	-3.6	+0.6	1.5
21	Alderney, Alderney Island.....	49 43	2 12	0 09	Brest.....	281	+2 49	+2 47	-2.2	+0.2	1.5
22	Omonville.....	49 43	1 51	0 07	Havre.....	285	-1 55	-3 07	-6.6	-0.6	0.9
23	Cherbourg.....	49 39	1 37	0 06	Havre.....	285	-1 27	-2 24	-4.4	-0.4	0.9
24	Barfleur.....	49 40	1 16	0 05	Havre.....	285	-0 44	-1 32	-5.0	-0.4	0.9
25	La Hougue.....	49 34	1 16	0 05	Havre.....	285	-0 45	-1 24	-3.8	-0.2	0.9
26	Port-en-Bessin.....	49 21	0 46	0 03	Havre.....	285	-0 40	-1 11	-2.4	0.0	0.9
27	Courselles.....	49 20	0 27	0 02	Havre.....	285	-0 21	-0 46	-2.4	-0.2	0.9
28	Oystreham.....	49 17	0 15	0 01	Havre.....	285	-0 11	-0 15	-1.4	-0.2	0.9
29	Dives.....	49 18	0 05	0 00	Havre.....	285	-0 02	-0 07	-1.4	-0.2	0.9
East.											
30	HAVRE, Seine River.....	49 29	0 06	0 00	Havre.....	285	0 00	0 00	0.0	0.0	1.0
31	Honfleur, Seine River.....	49 25	0 13	0 01	Havre.....	285	+0 07	+0 04	+0.3	+0.1	1.0
32	Quillebeuf, Seine River.....	49 28	0 31	0 02	Havre.....	285	+0 34	+0 19	-11.6	-1.4	0.9
33	Fécamp.....	49 46	0 22	0 01	Havre.....	285	+1 04	+0 49	+0.7	+0.1	1.0
34	St. Valéry-en-Caux.....	49 52	0 42	0 03	Havre.....	285	+1 29	+1 22	+3.8	+0.6	1.0
35	Dieppe.....	49 56	1 05	0 04	Havre.....	285	+1 55	+1 38	+4.2	+0.6	1.0
36	Treport.....	50 04	1 22	0 05	Havre.....	285	+2 04	+1 35	+5.2	+0.8	1.0
37	St. Valéry-sur-Somme.....	50 11	1 38	0 07	Dover.....	305	+0 37	+0 23	+8.6	-1.6	1.0
38	Boulogne.....	50 44	1 35	0 06	Dover.....	305	+0 18	+0 04	+5.6	-1.4	1.0
39	Cape Griznez.....	50 52	1 35	0 06	Dover.....	305	+0 17	+0 03	+2.4	+1.0	1.0
40	Calais.....	50 58	1 51	0 07	Dover.....	305	+0 38	+0 24	+2.0	+0.8	1.0
41	Gravelines.....	51 01	2 06	0 08	Dover.....	305	+0 57	+0 26	+0.2	-0.6	0.9
42	Dunkerque.....	51 03	2 21	0 09	Dover.....	305	+0 55	+0 07	-1.8	+0.4	0.9
THE BRITISH ISLANDS.											
Scotland, east coast.											
			West.				Greenwich time.				
43	Duncansby Head.....	58 39	3 00	0 12	Edinburgh.....	289	-4 26	-4 29	-5.6	-0.6	0.9
44	Wick.....	58 26	3 05	0 12	Edinburgh.....	289	-3 16	-3 19	-5.4	-0.6	0.9
45	Doornoch Road.....	57 52	4 02	0 16	Edinburgh.....	289	-2 32	-2 35	-4.7	-0.5	0.9
46	Cromarty.....	57 41	4 02	0 16	Edinburgh.....	289	-2 37	-2 40	-2.2	-0.2	0.9
47	Inverness.....	57 28	4 14	0 17	Edinburgh.....	289	-1 51	-1 54	-3.6	-0.4	0.9
48	Banff.....	57 40	2 31	0 10	Edinburgh.....	289	-1 45	-1 48	-5.4	-0.6	0.9
49	Peterhead.....	57 30	1 46	0 07	Edinburgh.....	289	-1 42	-1 45	-4.0	-0.8	0.9
50	Aberdeen.....	57 09	2 07	0 08	Edinburgh.....	289	-1 15	-1 18	-3.7	-0.7	0.9
51	Stonehaven.....	56 58	2 12	0 09	Edinburgh.....	289	-1 04	-1 07	-1.8	-0.4	0.9
52	Montrose.....	56 42	2 26	0 10	Edinburgh.....	289	+0 04	+0 01	-2.0	-0.4	0.9
53	Arbroath.....	56 33	2 35	0 10	Edinburgh.....	289	-0 38	-0 41	-1.9	-0.5	0.9
54	Tay River Entrance.....	56 27	2 43	0 11	Edinburgh.....	289	-0 06	-0 09	-0.2	-0.2	1.0
55	Dundee.....	56 28	2 58	0 12	Edinburgh.....	289	+0 21	-0 18	-1.6	-0.4	0.9
56	Fife Ness.....	56 17	2 35	0 10	Edinburgh.....	289	-0 03	-0 06	-1.2	-0.4	0.9
57	Burntisland, Firth of Forth.....	56 04	3 14	0 13	Edinburgh.....	289	+0 14	+0 11	+0.2	-0.2	1.0
58	Alloa, Firth of Forth.....	56 08	3 52	0 15	Edinburgh.....	289	+1 20	+1 17	+1.4	-0.2	1.1
59	Granton, Firth of Forth.....	55 59	3 15	0 13	Edinburgh.....	289	+0 10	+0 07	0.0	-0.2	1.0
60	EDINBURGH (Leith), Firth of Forth.....	55 59	3 10	0 13	Edinburgh.....	289	0 00	0 00	0.0	0.0	1.0
61	Dunbar.....	56 00	2 31	0 10	Edinburgh.....	289	-0 05	-0 08	-1.4	-0.4	0.9
62	Eyemouth.....	56 52	2 06	0 08	Edinburgh.....	289	0 00	-0 03	-1.6	-0.4	0.9

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	5 33	11 58	5 31a	12 00a	22.8	30.5	18.3	22.3	0.8	0.9	.....	1.1	15.2	11.2	16.0
2	5 35	12 00	5 33a	12 02a	24.0	32.2	14.0	23.5	0.8	1.0	.....	1.1	16.1	11.7	16.0
3	5 38	12 03	5 36a	12 05a	23.6	31.7	13.8	23.1	0.8	1.0	.....	1.1	15.8	11.5	16.0
4	5 40	12 07	5 38a	12 09a	23.3	31.3	13.6	22.8	0.8	0.9	.....	1.1	15.6	11.4	16.0
5	5 42	12 12	5 40a	12 14a	22.4	30.0	13.1	21.9	0.8	0.9	.....	1.1	15.0	11.0	16.0
6	5 40	12 16	5 38a	12 18a	23.8	31.9	13.9	23.3	0.8	1.0	.....	1.1	16.0	11.6	16.0
7	5 37	12 15	5 35a	12 17a	23.6	31.7	13.8	23.1	0.8	1.0	.....	1.1	15.8	11.5	16.0
8	5 39	12 20	5 37a	12 22a	24.6	33.0	14.4	24.1	0.8	1.0	.....	1.2	16.5	12.0	16.0
9	5 43	0 04	5 41a	0 06b	26.8	36.0	15.7	26.3	0.9	1.0	2 39	1.2	18.0	13.2	15.5
10	5 42	0 06	5 40a	0 07b	27.5	36.8	16.1	27.0	0.9	1.0	.....	1.2	18.4	13.5	15.5
11	5 50	0 09	5 48a	0 11b	27.4	36.7	16.0	26.9	0.9	1.0	.....	1.2	18.4	13.4	15.5
12	5 57	0 11	5 55a	0 13b	25.9	34.7	15.2	25.4	0.9	1.0	.....	1.2	17.4	12.7	15.5
13	6 02	0 13	6 00a	0 15b	25.1	33.7	14.7	24.6	0.8	1.0	.....	1.2	16.8	12.3	15.5
14	6 07	0 15	6 05a	0 17b	23.0	30.8	13.5	22.5	0.8	0.9	.....	1.1	15.4	11.8	15.5
15	6 21	0 30	6 19a	0 32b	20.0	26.8	11.7	19.5	0.8	0.9	.....	1.0	13.4	9.8	15.5
16	5 55	0 04	5 53a	0 06b	25.9	34.7	15.2	25.4	0.9	1.0	.....	1.2	17.4	12.7	15.5
17	5 46	12 01	5 44a	12 03a	25.9	34.7	15.2	25.4	0.9	1.0	.....	1.2	17.4	12.7	15.5
18	6 09	0 00	6 07a	0 02b	23.3	31.2	13.6	22.8	0.8	0.9	.....	1.1	15.6	11.4	16.0
19	6 12	0 07	6 09a	0 10b	19.4	26.0	11.5	19.7	0.6	1.2	.....	1.3	13.0	10.0	16.0
20	6 20	0 15	6 18a	0 27b	11.6	15.5	6.9	11.8	0.5	0.9	.....	1.0	8.8	6.0	16.0
21	6 21	0 16	6 17a	0 28b	12.8	17.2	7.6	13.0	0.5	1.0	.....	1.0	8.6	6.6	16.0
22	7 01	1 00	6 57a	1 12b	11.4	15.2	6.8	11.6	0.5	0.9	.....	1.0	7.6	5.9	16.0
23	7 30	1 44	7 28a	1 55b	13.2	17.6	7.8	13.4	0.5	1.0	3 16	1.0	8.8	6.8	15.5
24	8 14	2 37	8 10a	2 49b	12.7	17.0	7.5	12.9	0.5	1.0	.....	1.0	8.5	6.6	15.5
25	8 13	2 45	8 09a	2 57b	13.8	18.5	8.2	14.0	0.5	1.0	.....	1.1	9.2	7.1	15.5
26	8 20	3 00	8 16a	3 12b	14.9	20.0	8.9	15.1	0.5	1.1	.....	1.1	10.0	7.7	15.0
27	8 40	8 26	8 37a	8 26b	15.2	19.8	9.7	16.2	0.3	0.8	.....	0.9	9.9	8.2	15.0
28	8 53	3 58	8 50a	3 58b	16.0	20.8	10.2	17.1	0.3	0.9	.....	0.9	10.4	8.7	15.0
29	9 01	4 07	8 58a	4 07b	16.0	20.8	10.2	17.1	0.3	0.9	.....	0.9	10.4	8.7	15.0
30	9 03	4 14	9 00a	4 14b	17.3	22.5	11.0	18.4	0.4	0.9	4 18	0.9	11.2	9.3	14.5
31	9 09	4 17	9 06a	4 17b	17.5	22.8	11.1	18.7	0.4	0.9	.....	0.9	11.4	9.4	14.5
32	9 35	4 31	9 31a	4 32b	7.2	9.4	4.6	7.9	0.2	0.6	.....	0.6	4.7	4.1	14.5
33	10 06	5 02	10 03a	5 02b	17.9	23.3	11.4	19.1	0.4	0.9	.....	0.9	11.6	9.6	14.5
34	10 29	5 33	10 26a	5 33b	20.6	26.8	13.1	21.8	0.4	1.0	.....	1.0	13.4	11.1	14.5
35	10 54	5 48	10 51a	5 48b	20.9	27.3	13.3	22.1	0.4	1.0	.....	1.0	13.6	12.2	14.5
36	11 02	5 44	10 59a	5 44b	21.7	28.3	13.8	22.9	0.4	1.0	.....	1.0	14.2	11.6	14.5
37	11 38	6 12	11 36a	6 14b	22.0	28.5	14.5	21.5	0.6	0.7	.....	0.8	14.2	10.7	14.5
38	11 18	5 52	11 16a	5 54b	19.4	25.2	12.8	19.0	0.5	0.6	.....	0.7	12.6	9.5	14.5
39	11 17	5 51	11 15a	5 53b	16.6	21.5	11.0	16.2	0.5	0.6	.....	0.7	10.8	8.1	14.5
40	11 39	6 13	11 37a	6 15b	16.2	21.0	10.7	15.8	0.5	0.6	.....	0.7	10.5	7.9	14.5
41	11 59	6 16	11 57a	6 18b	14.6	19.0	9.6	14.2	0.5	0.5	.....	0.6	9.5	7.1	14.5
42	11 58	5 58	11 56a	6 00b	12.9	16.8	8.5	12.5	0.4	0.5	.....	0.6	8.4	6.8	14.5
43	10 00	3 47	9 56a	3 50b	7.3	9.8	4.2	8.5	0.6	1.0	.....	0.8	4.9	4.2	19.0
44	11 10	4 57	11 06a	5 00b	7.3	9.9	4.2	8.6	0.6	1.0	.....	0.8	5.0	4.3	19.0
45	11 50	5 37	11 55a	5 40b	8.0	10.8	4.6	9.4	0.7	1.1	.....	0.9	5.4	4.7	19.0
46	11 45	5 32	11 40a	5 35b	10.1	13.7	5.9	13.9	0.7	1.2	.....	1.0	6.8	6.9	19.0
47	0 05	6 17	0 00b	6 20b	8.9	12.0	5.2	10.5	0.7	1.1	.....	1.0	6.0	5.2	19.0
48	0 18	6 30	0 13b	6 33b	7.5	10.1	4.4	8.8	0.6	1.0	.....	0.9	5.0	4.4	18.5
49	0 24	6 36	0 19b	6 39b	8.9	11.2	6.1	10.1	0.7	1.1	.....	1.0	5.6	5.0	18.0
50	0 50	7 02	0 45b	7 05b	9.2	11.7	6.4	10.5	0.7	1.1	.....	1.0	5.8	5.2	18.0
51	1 00	7 12	0 55b	7 15b	10.9	13.8	7.5	12.4	0.7	1.2	.....	1.1	6.9	6.2	18.0
52	2 07	8 19	2 02b	8 22b	10.7	13.6	7.4	12.2	0.7	1.2	.....	1.1	6.8	6.1	18.0
53	1 25	7 37	1 20b	7 40b	10.8	13.7	7.5	12.3	0.7	1.2	.....	1.1	6.8	6.2	18.0
54	1 56	8 08	1 51b	8 11b	12.3	15.5	8.5	13.9	0.8	1.3	.....	1.5	7.8	7.0	18.0
55	2 22	8 34	2 17b	8 37b	11.1	14.1	7.7	12.6	0.7	1.2	.....	1.2	7.0	6.8	18.0
56	2 00	8 12	1 55b	8 15b	11.4	14.4	7.9	12.9	0.7	1.2	.....	1.2	7.2	6.5	18.0
57	2 14	8 26	2 09b	8 29b	12.7	16.1	8.8	14.4	0.8	1.3	.....	1.5	8.0	7.2	18.0
58	3 18	9 30	3 13b	9 33b	13.7	17.3	9.5	15.5	0.8	1.3	.....	1.7	8.6	7.8	18.5
59	2 10	8 22	2 05b	9 25b	12.5	15.8	8.6	14.2	0.8	1.3	.....	1.5	7.9	7.1	18.0
60	2 00	8 15	1 51b	8 18b	12.2	16.0	8.4	14.0	0.6	1.3	9 25	1.9	8.0	7.8	18.0
61	1 58	8 10	1 53b	8 13b	11.2	14.2	7.7	12.7	0.7	1.2	.....	1.2	7.1	6.8	18.0
62	2 05	8 17	2 00b	8 20b	11.1	14.0	7.7	12.6	0.7	1.2	.....	1.2	7.0	6.2	18.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.		Standard port for reference.		Tidal differences.				Ref. of tides.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.		LW.
EUROPE (WEST COAST)—Cont'd.											
THE BRITISH ISLANDS—continued.											
England, east coast.		North.	West.		Greenwich time.		Mean Low Water Springs				
		°	'	h. m.			h. m.	h. m.	feet.	feet.	
1	Berwick	55 46	1 59	0 08	Sheerness	297	+ 2 05	+ 2 23	- 1.8	+0.1	
2	Holy Island	55 41	1 50	0 07	Sheerness	297	+ 2 16	+ 2 34	- 1.8	+0.1	
3	Blyth	55 08	1 30	0 06	Sheerness	297	+ 3 00	+ 3 18	- 1.8	+0.1	
4	North Shields	55 01	1 26	0 06	Sheerness	291	+ 3 06	+ 3 24	- 2.0	+0.1	
5	Tyne River Entrance	55 01	1 25	0 06	Sheerness	291	+ 3 03	+ 3 21	- 1.6	+0.1	
6	Newcastle, Tyne River	54 57	1 36	0 06	Sheerness	297	+ 3 17	+ 3 35	- 1.4	+0.2	
7	Sunderland	54 55	1 21	0 05	Sheerness	297	+ 3 06	+ 3 24	- 2.3	0.0	
8	Seaham	54 50	1 19	0 05	Sheerness	297	+ 3 08	+ 3 26	- 2.3	0.0	
9	West Hartlepool	54 41	1 12	0 05	Sheerness	297	+ 3 13	+ 3 33	- 2.7	-0.1	
10	Whitby	54 30	0 37	0 02	Sheerness	297	+ 3 26	+ 3 44	- 1.8	+0.1	
11	Scarborough	54 17	0 23	0 02	Sheerness	297	+ 3 52	+ 4 09	- 1.4	+0.2	
12	Filey Bay	54 12	0 17	0 01	Sheerness	297	+ 4 00	+ 4 16	- 1.1	+0.2	
13	Flamborough Head	54 07	0 05	0 00	Hull	298	- 1 40	- 1 55	- 4.0	-0.2	
14	Bridlington	54 05	0 12	0 01	Hull	298	- 1 30	- 1 47	- 4.0	-0.2	
15	Great Grimsby, Humber River	53 34	0 05	0 00	Hull	293	- 0 34	- 0 52	- 1.0	+0.2	
16	HULL, Humber River	53 44	0 20	0 01	Hull	293	0 00	0 00	0.0	0.0	
17	Goole, Humber River	53 41	0 53	0 04	Hull	298	+ 1 20	+ 1 12	- 6.7	-0.5	
		East.									
18	Spurn Point, Humber River	53 35	0 07	0 00	Hull	293	- 0 44	- 1 02	- 1.6	0.0	
19	Boston Dock	52 57	0 00	0 00	Hull	293	+ 0 20	+ 0 02	+ 0.4	+0.4	
20	Lynn Deep	53 01	0 26	0 02	Hull	293	- 0 12	- 0 30	+ 2.2	+0.6	
21	Wells Harbor	52 57	0 50	0 03	Hull	293	+ 0 47	+ 0 29	- 7.6	-0.6	
22	Blakeney Bar	52 58	1 00	0 04	Hull	293	+ 0 16	- 0 02	- 4.9	-0.3	
23	Yarmouth Road	52 35	1 44	0 07	Sheerness	297	+ 8 47	+ 8 58	- 9.8	-1.1	
24	Lowestoft	52 29	1 45	0 07	Sheerness	297	+ 9 29	+ 9 40	- 9.5	-1.0	
25	Orford Ness	52 05	1 34	0 06	Sheerness	297	+ 10 48	+ 10 59	- 8.0	-0.9	
26	Harwich	51 56	1 19	0 05	Sheerness	297	+ 11 40	+ 11 51	- 5.0	-0.6	
27	Nore (light vessel), Thames River	51 29	0 48	0 03	Sheerness	297	+ 0 06	+ 0 17	- 1.4	-0.2	
28	SHEERNESS, Thames River	51 27	0 45	0 03	Sheerness	297	0 00	0 00	0.0	0.0	
29	Chatham, Thames River	51 23	0 30	0 02	Sheerness	297	+ 0 48	+ 0 59	+ 1.0	+0.1	
30	Gravesend, Thames River	51 26	0 22	0 01	Sheerness	297	+ 0 43	+ 0 54	+ 1.4	+0.1	
31	Woolwich, Thames River	51 29	0 04	0 00	Sheerness	297	+ 0 51	+ 1 27	+ 1.4	+0.1	
32	Greenwich, Thames River	51 28	0 00	0 00	London Bridge	301	- 0 14	- 0 44	- 2.0	-0.1	
		West.									
33	London Docks, Thames River	51 29	0 03	0 00	London Bridge	301	- 0 07	- 0 34	- 0.5	0.0	
34	LONDON BRIDGE, Thames River	51 30	0 07	0 00	London Bridge	301	0 00	0 00	0.0	0.0	
		East.									
35	Margate	51 23	1 23	0 06	Sheerness	297	- 1 07	- 0 36	- 1.6	+0.1	
36	Ramsgate	51 20	1 25	0 06	Sheerness	297	- 1 16	- 0 12	- 0.9	-0.3	
37	Deal	51 14	1 25	0 06	Sheerness	297	- 1 37	- 0 42	- 1.1	+0.2	
England, south coast.											
38	DOVER	51 07	1 19	0 05	Dover	305	0 00	0 00	0.0	0.0	
39	Folkestone	51 05	1 12	0 05	Dover	305	- 0 11	- 1 11	+ 0.9	+0.7	
40	Dungeness	50 55	0 58	0 04	Dover	305	- 0 32	- 1 32	+ 2.4	+1.0	
41	Rye Bay	50 56	0 47	0 03	Dover	305	+ 0 04	- 0 56	+ 2.6	+1.0	
42	Hastings	50 51	0 36	0 02	Dover	305	- 0 22	- 1 22	+ 4.4	+1.2	
43	Beachy Head	50 44	0 13	0 01	Dover	305	+ 0 06	- 0 54	+ 0.9	+0.7	
44	Newhaven	50 47	0 04	0 00	Dover	305	+ 0 38	- 0 22	+ 0.9	-0.7	
		West.									
45	Brighton	50 49	0 08	0 01	Dover	305	+ 0 03	- 0 57	+ 0.6	-0.8	
46	Shoreham	50 50	0 15	0 01	Dover	305	+ 0 22	- 0 38	- 0.9	-0.5	
47	Littlehampton	50 48	0 32	0 02	Dover	305	+ 0 09	- 0 51	- 2.6	-0.2	
48	Selsea Bill	50 44	0 47	0 03	Dover	305	+ 0 35	- 0 25	- 2.3	-0.3	
49	Portsmouth	50 47	1 06	0 04	Dover	305	+ 0 32	- 1 28	- 4.9	0.0	
50	Calshot Castle	50 49	1 17	0 05	Dover	305	+ 0 22	- 0 38	- 4.2	0.0	
51	Southampton	50 54	1 24	0 06	Dover	305	+ 2 03	+ 1 03	- 5.3	-0.1	
52	Cowes, Isle of Wight	50 45	1 18	0 05	Dover	305	+ 0 07	- 0 53	- 5.8	-0.2	
53	Bembridge Point, Isle of Wight	50 41	1 04	0 04	Dover	305	- 0 09	- 1 09	- 4.4	0.0	
54	Yarmouth, Isle of Wight	50 41	1 31	0 06	Dover	305	- 1 07	- 2 07	- 10.6	-0.8	
55	Christchurch	50 44	1 46	0 07	Portland Br'kw	309	+ 3 36	+ 3 57	- 1.4	-0.2	
56	Poole Entrance	50 40	1 56	0 08	Portland Br'kw	309	+ 1 37	+ 1 58	- 0.1	-0.1	
57	PORTLAND BREAKWATER	50 34	2 25	0 10	Portland Br'kw	309	0 00	0 00	0.0	0.0	
58	Bridport	50 42	2 45	0 11	Portland Br'kw	309	- 0 25	- 1 04	+ 3.8	-1.0	
59	Lyme Regis	50 43	2 56	0 12	Portland Br'kw	309	- 0 09	- 0 48	+ 4.0	-1.0	
60	Exmouth	50 37	3 26	0 14	Brest	281	+ 2 39	+ 2 30	- 7.7	-1.1	
61	Teignmouth	50 32	3 30	0 14	Brest	281	+ 2 09	+ 2 00	- 6.0	-0.8	
62	Torquay, Torbay	50 27	3 32	0 14	Brest	281	+ 2 14	+ 2 05	- 5.4	-0.8	
63	Dartmouth	50 21	3 31	0 14	Brest	281	+ 2 24	+ 2 15	- 4.8	-0.8	
64	Start Point	50 13	3 38	0 15	Brest	281	+ 1 50	+ 1 41	- 4.2	-0.6	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	2 08	8 28	2 03b	8 31b	11.6	15.0	7.5	13.3	0.8	1.5	.....	1.2	7.5	6.8	17.5
2	2 20	8 40	2 15b	8 43b	11.6	15.0	7.5	13.3	0.8	1.5	.....	1.2	7.5	6.8	17.5
3	3 05	9 25	3 00b	9 28b	11.6	15.0	7.5	13.3	0.8	1.5	.....	1.2	7.5	6.8	17.0
4	3 11	9 31	3 06b	9 34b	11.4	14.8	7.4	13.1	0.8	1.5	.....	1.2	7.4	6.7	17.0
5	3 08	9 28	3 03b	9 31b	11.7	15.2	7.6	13.4	0.8	1.5	.....	1.2	7.6	6.8	17.0
6	3 22	9 42	3 14b	9 46b	11.9	15.5	7.7	13.7	0.8	1.6	.....	1.7	7.8	7.0	17.0
7	3 12	9 32	3 04b	9 37b	11.2	14.5	7.3	12.9	0.8	1.5	.....	1.7	7.2	6.6	17.0
8	3 14	9 34	3 06b	9 39b	11.2	14.5	7.3	12.9	0.8	1.5	.....	1.7	7.2	6.6	17.0
9	3 19	9 41	3 11b	9 44b	10.9	14.1	7.1	12.7	0.8	1.6	11 16	1.7	7.1	6.6	17.0
10	3 35	9 55	3 27b	10 00b	11.6	15.0	7.5	13.4	0.8	1.6	.....	1.7	7.5	6.9	16.5
11	4 01	10 20	3 53b	10 24b	11.9	15.5	7.7	13.7	0.8	1.6	.....	1.7	7.8	7.0	16.0
12	4 10	10 28	4 02b	10 33b	12.2	15.8	7.9	14.2	0.9	1.7	.....	1.8	7.9	7.3	16.0
13	4 20	10 36	4 13b	10 40b	12.5	15.8	8.8	12.6	0.8	1.8	.....	1.8	7.9	6.4	16.0
14	4 29	10 43	4 22b	10 47b	12.5	15.8	8.8	12.6	0.8	1.8	.....	1.8	7.9	6.4	16.0
15	5 26	11 39	5 19b	11 43b	15.1	19.1	10.6	15.2	0.9	1.9	.....	1.9	9.6	7.8	16.0
16	5 59	0 05	5 52b	0 08a	16.3	19.9	11.9	17.0	0.9	2.0	13 42	2.0	10.0	8.8	16.0
17	7 16	1 14	7 08b	1 18a	10.1	12.8	7.1	10.2	0.7	1.6	.....	1.6	6.4	5.2	16.0
18	5 16	11 29	5 11b	11 32b	14.6	18.5	10.2	14.7	0.9	1.9	.....	1.9	9.2	7.5	15.5
19	6 20	0 08	6 14b	0 11a	16.4	20.8	11.5	16.5	0.9	2.0	.....	2.0	10.4	8.4	15.5
20	5 50	12 03	6 44b	12 06b	18.0	22.8	12.6	18.1	0.9	2.1	.....	2.1	11.4	9.2	15.5
21	6 50	0 38	6 42b	0 42a	9.3	11.8	6.5	9.4	0.7	1.5	.....	1.5	5.9	4.8	15.0
22	6 20	0 08	6 13b	0 12a	11.7	14.8	8.2	11.8	0.7	1.7	.....	1.7	7.4	6.0	15.0
23	9 05	2 53	9 15b	2 49a	4.7	5.8	3.4	5.8	0.3	1.0	.....	1.0	2.9	3.0	15.0
24	9 47	3 35	9 57b	3 31a	5.0	6.2	3.6	6.1	0.3	1.0	.....	1.0	3.1	3.2	15.0
25	11 05	4 53	11 14b	4 49a	6.3	7.8	4.5	7.6	0.4	1.2	.....	1.2	3.9	4.0	15.0
26	11 56	5 44	12 03b	5 41a	9.1	11.2	6.6	10.6	0.4	1.4	.....	1.4	5.6	5.6	15.0
27	0 20	6 33	0 26b	6 30b	12.3	15.2	8.9	13.9	0.4	1.6	.....	1.6	7.6	7.3	15.0
28	0 14	6 16	0 07b	6 17b	13.5	16.9	9.5	15.0	0.3	1.7	7 05	1.7	8.5	7.8	15.0
29	1 01	7 14	1 07b	7 11b	14.4	17.8	10.4	16.2	0.5	1.7	.....	1.7	8.9	8.4	15.0
30	0 55	7 08	1 01b	7 05b	14.7	18.2	10.6	16.6	0.5	1.8	.....	1.8	9.1	8.6	15.0
31	1 02	7 40	1 08b	7 37b	14.7	18.2	10.6	16.6	0.5	1.9	.....	1.8	9.1	8.6	15.0
32	1 10	7 46	1 05b	7 47b	15.8	18.8	12.6	17.4	0.4	1.6	.....	1.4	9.4	9.0	15.5
33	1 17	7 56	1 12b	7 57b	17.2	20.5	13.8	18.9	0.4	1.7	.....	1.4	10.2	9.7	15.5
34	1 24	8 30	1 20b	8 31b	17.6	20.9	14.1	19.3	0.4	1.7	8 56	1.4	10.4	10.0	15.5
35	11 35	5 43	11 30a	5 45b	11.7	15.2	7.6	13.3	0.4	1.0	.....	1.1	7.6	6.8	14.5
36	11 26	6 07	11 22a	6 09b	12.9	15.8	9.3	14.8	0.6	1.1	6 52	1.2	7.9	7.5	14.5
37	11 05	5 37	11 00a	5 39b	12.2	15.8	7.9	13.8	0.4	1.0	.....	1.1	7.9	7.0	14.5
38	11 08	5 56	11 06a	5 58b	15.1	18.2	11.4	16.9	0.5	0.7	8 00	0.7	9.1	8.5	14.5
39	10 57	4 45	10 55a	4 47b	15.3	19.8	10.1	16.9	0.5	0.5	.....	0.7	9.9	8.4	14.5
40	10 35	4 23	10 33a	4 25b	16.6	21.5	11.0	18.4	0.5	0.6	.....	0.7	10.8	9.2	15.0
41	11 10	4 58	11 08a	5 00b	16.8	21.8	11.1	18.6	0.5	0.6	.....	0.7	10.9	9.3	15.0
42	10 43	4 31	10 41a	4 33b	18.3	23.8	12.1	20.1	0.5	0.6	.....	0.7	11.9	10.0	15.0
43	11 10	4 58	10 08a	5 00b	15.3	19.8	10.1	16.9	0.5	0.5	.....	0.7	9.9	8.4	15.0
44	11 41	5 29	11 39a	5 31b	15.3	19.8	10.1	16.9	0.5	0.5	.....	0.7	9.9	8.4	15.0
45	11 05	4 53	11 03a	4 55b	15.0	19.5	9.9	16.6	0.5	0.5	.....	0.7	9.8	8.3	15.0
46	11 24	5 12	11 22a	5 14b	13.7	17.8	9.0	15.0	0.4	0.4	.....	0.6	8.9	7.4	15.0
47	11 10	4 58	11 08a	5 00b	12.2	15.8	8.1	13.5	0.4	0.4	.....	0.6	7.9	6.5	15.5
48	11 35	5 23	11 33a	5 25b	12.5	16.2	8.3	13.8	0.4	0.4	.....	0.6	8.1	6.8	15.5
49	11 31	4 19	11 29a	4 21b	10.2	13.2	6.7	11.5	0.4	0.4	.....	0.5	6.6	5.7	15.5
50	11 20	5 08	11 17a	5 11b	10.9	14.1	7.2	12.3	0.4	0.5	.....	0.6	7.0	5.2	16.0
51	0 35	6 48	0 33b	6 50b	9.9	12.8	6.5	11.2	0.4	0.4	.....	0.5	6.4	4.8	16.0
52	11 05	4 53	11 02a	4 55b	9.4	12.2	6.2	10.5	0.4	0.3	.....	0.5	6.1	4.6	16.0
53	10 50	4 38	10 47a	4 41b	10.6	13.8	7.0	12.0	0.4	0.5	.....	0.6	6.9	5.1	15.5
54	9 50	3 38	9 46a	3 42b	5.2	6.8	3.4	6.2	0.3	0.3	.....	0.4	3.4	2.5	16.0
55	10 00	4 48	9 48a	5 00b	3.0	4.8	0.8	3.5	0.6	0.5	.....	0.8	2.4	1.7	16.0
56	8 00	2 48	7 50a	2 58b	3.9	6.3	1.0	4.4	0.7	0.6	.....	0.9	3.2	2.2	16.0
57	6 21	0 48	6 13a	0 56b	4.1	6.4	1.2	5.1	0.7	0.8	3 30	0.9	3.2	2.6	16.5
58	5 55	12 08	5 48a	12 16a	6.9	11.1	1.7	7.6	0.9	0.8	.....	1.2	5.6	3.8	16.5
59	6 10	12 23	6 03a	12 31a	7.1	11.4	1.8	7.8	0.9	0.8	.....	1.2	5.7	3.9	16.5
60	6 15	0 03	6 11a	0 07b	8.1	10.8	4.9	8.2	0.6	0.4	.....	0.6	5.4	4.0	17.0
61	5 45	11 58	5 42a	12 02a	9.6	12.8	5.9	9.7	0.6	0.4	.....	0.7	6.4	4.8	17.0
62	5 50	12 03	5 47a	12 07a	10.0	13.4	6.1	10.1	0.7	0.4	.....	0.7	6.7	5.0	17.0
63	6 00	12 13	5 57a	12 17a	10.6	14.1	6.5	10.7	0.7	0.4	.....	0.7	7.0	5.3	17.0
64	5 25	11 38	5 22a	11 42a	11.2	14.9	6.8	11.8	0.7	0.4	.....	0.8	7.4	5.6	17.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
EUROPE (WEST COAST)—Cont'd.											
THE BRITISH ISLANDS—continued.											
England, south coast—Continued.											
		North.	West.				Greenwich time.		Mean Low Water Springs.		
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.	
1	Bolt Head	50 12	3 48	0 15	Brest	281	+1 55	+1 46	-4.5	-0.7	0.71
2	Plymouth Breakwater	50 20	4 09	0 17	Brest	281	+1 47	+1 38	-3.8	-0.6	0.75
3	Devonport	50 22	4 10	0 17	Brest	281	+1 57	+1 48	-3.6	-0.6	0.71
4	East Looe	50 20	4 29	0 18	Brest	281	+1 38	+1 29	-2.5	-0.3	0.88
5	Fowey	50 20	4 38	0 19	Brest	281	+1 29	+1 20	-4.2	-0.6	0.72
6	Mevagissey	50 16	4 47	0 19	Brest	281	+1 19	+1 10	-3.8	-0.6	0.77
7	Truro, town quay	50 15	5 04	0 20	Brest	281	+1 18	+1 09	-8.4	-1.2	0.71
8	Falmouth	50 08	5 04	0 20	Brest	281	+1 10	+1 01	-3.4	-0.4	0.77
9	Helford Entrance	50 06	5 06	0 20	Brest	281	+1 00	+0 51	-3.8	-0.6	0.77
10	Coverack	50 02	5 07	0 20	Brest	281	+0 50	+0 41	-4.6	-0.6	0.71
11	Lizard Head	49 58	5 13	0 21	Brest	281	+1 16	+1 07	-4.8	-0.6	0.72
12	Penzance	50 07	5 32	0 22	Brest	281	+0 52	+0 43	-3.1	-0.5	0.75
13	St. Agnes Island, Scilly Islands	49 54	6 21	0 25	Brest	281	+0 50	+0 41	-3.2	-0.4	0.84
14	St. Mary Island, Scilly Islands	49 55	6 19	0 25	Brest	281	+0 47	+0 38	-3.2	-0.4	0.84
15	Trescow Island, Scilly Islands	49 57	6 22	0 25	Brest	281	+0 42	+0 33	-3.1	-0.5	0.84
England, west coast.											
16	Cape Cornwall	50 08	5 43	0 23	Brest	281	+0 48	+0 39	-1.2	-0.4	0.85
17	St. Ives	50 12	5 28	0 22	Brest	281	+1 02	+0 53	+1.2	0.0	1.11
18	Towan or New Quay	50 25	5 05	0 20	Brest	281	+0 58	+0 49	+1.8	0.0	1.11
19	Padstow Bay	50 31	4 55	0 20	Brest	281	+0 56	+0 46	+2.3	+0.1	1.15
20	Boscawen	50 41	4 43	0 19	Brest	281	+1 29	+1 20	+2.4	0.0	1.13
21	Budehaven	50 50	4 34	0 18	Brest	281	+1 58	+1 49	+3.0	+0.2	1.31
22	Lundy Island	51 10	4 40	0 19	Brest	281	+1 29	+1 20	+6.6	+0.6	1.41
23	Appledore, Torridge River	51 03	4 12	0 17	Brest	281	+2 12	+2 03	+3.0	+0.2	1.19
24	Blidford, Torridge River	51 00	4 13	0 17	Brest	281	+2 17	+2 08	-3.0	-0.6	0.84
25	Barnstaple, Taw River	51 04	4 03	0 16	Brest	281	+2 41	+2 32	-7.9	-1.3	0.55
26	Ilfracombe, Bristol Channel	51 12	4 07	0 16	Brest	281	+1 56	+1 47	+6.9	+0.7	1.42
27	Lynmouth, Bristol Channel	51 13	3 50	0 15	Brest	281	+2 15	+2 06	+9.8	+1.0	1.56
28	Minehead, Bristol Channel	51 13	3 28	0 14	Brest	281	+2 34	+2 25	+11.4	+1.2	1.62
29	Bridgewater Bar, Bristol Channel	51 12	3 03	0 12	Brest	281	+2 57	+2 48	+13.8	+1.6	1.82
30	Bridgewater, Bristol Channel	51 07	3 00	0 12	Brest	281	+4 07	+3 58	-1.2	-0.4	0.94
31	Flatholm Island, Bristol Channel	51 23	3 07	0 12	Brest	281	+3 02	+2 53	+16.2	+1.8	1.95
32	Weston-super-Mare, Bristol Chan.	51 20	2 59	0 12	Brest	281	+3 00	+2 51	+15.6	+1.8	1.89
33	Bristol, Avon River	51 26	2 36	0 10	Brest	281	+3 20	+3 11	+10.5	+1.1	1.64
34	Chepstow, Severn River	51 37	2 29	0 11	Brest	281	+3 36	+3 27	+16.3	+1.9	1.85
35	Gloucester, Severn River	51 51	2 17	0 09	Brest	281	+5 49	+5 40	-12.4	-1.8	0.82
36	Newport, Severn River	51 34	2 59	0 12	Brest	281	+3 22	+3 13	+16.2	+1.8	1.95
Wales.											
37	Cardiff, Bristol Channel	51 28	3 10	0 13	Brest	281	+3 08	+2 59	+14.9	+1.7	1.99
38	Nash Point, Bristol Channel	51 24	3 33	0 14	Brest	281	+2 34	+2 50	+11.9	+1.3	1.71
39	Swansea, Bristol Channel	51 37	3 56	0 16	Brest	281	+2 11	+2 02	+6.9	+0.7	1.41
40	Worms Head, Bristol Channel	51 33	4 19	0 17	Brest	281	+2 13	+2 04	+5.0	+0.4	1.31
41	Carmarthen, Towy River	51 50	4 19	0 17	Brest	281	+1 57	+1 48	+5.7	+0.5	1.35
42	Caldy Island	51 38	4 41	0 19	Brest	281	+2 09	+2 00	+5.2	+0.4	1.32
43	St. Ann's Head, Milford Haven	51 40	5 10	0 21	Brest	281	+2 12	+2 03	+4.1	+0.3	1.28
44	Pembroke, Milford Haven	51 41	4 56	0 20	Brest	281	+2 11	+2 06	+2.8	+0.2	1.18
45	Smalls Light-House	51 43	5 40	0 23	Brest	281	+2 13	+2 04	+1.3	-0.1	1.19
46	Fishguard	51 59	4 57	0 20	Brest	281	+3 05	+2 56	-6.4	-1.0	0.64
47	Cardigan	52 05	4 39	0 19	Brest	281	+3 13	+3 04	-6.7	-1.1	0.65
48	New Quay	52 13	4 20	0 17	Brest	281	+3 47	+3 38	-5.8	-1.0	0.74
49	Aberystwith	52 24	4 06	0 16	Brest	281	+3 51	+3 42	-4.6	-0.8	0.75
50	Aberdovey	52 33	4 03	0 16	Brest	281	+4 01	+3 52	-4.7	-0.9	0.75
51	Barmouth	52 43	4 04	0 16	Brest	281	+4 16	+4 07	-4.6	-0.8	0.75
52	Pwllheli	52 54	4 26	0 18	Brest	281	+4 03	+3 54	-4.0	-0.8	0.75
53	Bardsey Island	52 45	4 48	0 19	Brest	281	+3 53	+3 44	-4.0	-0.8	0.75
54	Carnarvon, Menai Strait	53 07	4 19	0 17	Brest	281	+5 47	+5 38	-3.4	-0.6	0.82
55	Beaumaris, Menai Strait	53 16	4 06	0 16	Brest	281	-5 44	-5 35	+3.4	+0.2	1.22
56	Holyhead	53 19	4 37	0 18	Brest	281	-5 57	-5 06	-3.2	-0.6	0.83
57	Trwyn-Du Point	53 19	4 02	0 16	Liverpool	313	-0 42	-1 14	-4.5	-0.3	0.84
58	Air Point, Dee River	53 20	3 19	0 13	Liverpool	313	-0 15	-0 47	-2.0	0.0	0.91
England, west coast—Continued.											
59	Chester, Dee River	53 11	2 55	0 12	Liverpool	313	+1 29	+0 32	-15.4	-1.6	0.36
60	Helbre Island, Mersey River	53 22	3 18	0 13	Liverpool	313	-0 18	-0 28	-0.6	0.0	0.95
61	LIVERPOOL, Mersey River	53 24	3 00	0 12	Liverpool	313	0 00	0 00	0.0	0.0	1.00
62	Northwest Light Vessel	53 31	3 31	0 14	Liverpool	313	-0 04	-0 26	-1.9	+0.1	0.91
63	Formby Point	53 32	3 11	0 13	Liverpool	313	-0 35	-1 07	-1.4	+0.2	0.92

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	5 30	11 43	5 28a	11 47a	10.9	14.5	6.6	11.0	0.7	0.4	.....	0.7	7.2	5.4	17.0
2	5 20	11 33	5 18a	11 36a	11.5	15.3	7.0	11.6	0.7	0.4	.....	0.7	7.6	5.7	17.0
3	5 30	11 43	5 28a	11 46a	11.6	15.4	7.1	11.7	0.7	0.4	.....	0.7	7.7	5.8	17.0
4	5 10	11 23	5 08a	11 26a	12.5	16.7	7.6	12.6	0.7	0.5	.....	0.8	8.4	6.2	17.5
5	5 00	11 13	4 58a	11 17a	11.1	14.8	6.8	11.2	0.7	0.4	.....	0.7	7.4	5.5	17.5
6	4 50	11 03	4 48a	11 06a	11.4	15.2	7.0	11.5	0.7	0.4	.....	0.7	7.6	5.7	17.5
7	4 48	11 01	4 44a	11 05a	7.5	10.0	4.6	7.6	0.6	0.4	.....	0.6	5.0	3.7	17.5
8	4 40	10 53	4 37a	10 57a	11.8	15.8	7.2	11.9	0.7	0.4	.....	0.8	7.9	5.9	17.5
9	4 30	10 43	4 27a	10 46a	11.4	15.2	7.0	11.5	0.7	0.4	.....	0.7	7.6	5.7	17.5
10	4 20	10 33	4 17a	10 37a	10.7	14.3	6.5	10.8	0.7	0.4	.....	0.7	7.2	5.3	17.5
11	4 45	10 58	4 42a	11 02a	10.6	14.2	6.5	10.7	0.7	0.4	.....	0.7	7.1	5.3	17.5
12	4 20	10 33	4 17a	10 37a	12.1	16.1	7.4	12.2	0.7	0.5	.....	0.8	8.0	6.0	18.0
13	4 15	10 28	4 12a	10 32a	11.9	15.9	7.3	12.0	0.7	0.5	.....	0.8	8.0	5.9	18.0
14	4 12	10 25	4 09a	10 29a	11.9	16.0	7.3	12.0	0.7	0.5	.....	0.8	8.0	5.9	18.0
15	4 07	10 20	4 04a	10 24a	12.1	16.1	7.4	12.2	0.7	0.5	.....	0.8	8.0	6.0	18.0
16	4 15	10 28	4 10a	10 33a	13.8	17.9	9.0	13.2	0.8	0.8	.....	1.2	9.0	6.5	18.0
17	4 30	10 43	4 25a	10 47a	16.0	20.8	10.4	15.3	0.9	0.9	.....	1.2	10.4	7.6	18.0
18	4 28	10 41	4 23a	10 45a	16.5	21.4	10.7	15.8	0.9	0.9	.....	1.3	10.7	7.9	18.0
19	4 25	10 38	4 20a	10 42a	16.9	21.9	11.0	16.2	0.9	0.9	.....	1.3	11.0	8.1	17.5
20	5 00	11 13	4 55a	11 17a	17.1	22.0	11.1	16.2	0.9	0.9	.....	1.3	11.0	8.1	17.5
21	5 30	11 43	5 26a	11 47a	17.6	22.8	11.4	16.9	0.9	0.9	.....	1.3	11.4	8.4	17.5
22	5 00	11 13	4 55a	11 17a	20.7	26.9	13.5	20.0	1.0	1.0	.....	1.4	13.4	10.0	17.5
23	5 45	11 58	5 41a	12 02a	17.5	22.7	11.4	16.8	0.9	0.9	.....	1.3	11.4	8.4	17.5
24	5 50	12 03	5 45a	12 08a	12.3	16.0	8.0	11.7	0.8	0.8	.....	1.1	8.0	5.8	17.5
25	6 15	0 03	6 09a	0 09b	8.1	10.5	5.3	7.6	0.6	0.6	.....	0.9	5.2	3.8	17.5
26	5 30	11 43	5 26a	11 47a	20.9	27.1	13.6	20.1	1.0	1.0	.....	1.4	13.6	10.0	17.5
27	5 50	12 03	5 46a	12 06a	23.4	30.4	15.2	22.6	1.1	1.1	.....	1.5	15.2	11.3	17.5
28	6 10	12 23	6 06a	12 26a	24.8	32.2	16.1	24.0	1.1	1.1	.....	1.5	16.1	11.9	17.0
29	6 35	0 23	6 31a	0 26b	26.9	35.0	17.5	26.1	1.1	1.1	.....	1.6	17.5	13.0	17.0
30	7 45	1 33	7 40a	1 38b	13.8	17.9	9.0	13.2	0.8	0.8	.....	1.2	9.0	6.5	17.0
31	6 40	0 28	6 36a	0 31b	29.0	37.6	18.9	28.1	1.2	1.2	.....	1.7	18.8	14.0	17.0
32	6 38	0 26	6 34a	0 29b	28.5	37.0	18.5	27.6	1.2	1.2	.....	1.7	18.5	13.7	17.0
33	7 00	0 48	6 56a	0 51b	24.1	31.3	15.7	23.3	1.1	1.1	.....	1.5	15.6	11.6	16.5
34	7 15	1 03	7 11a	1 06b	29.1	37.8	18.9	28.2	1.2	1.2	.....	1.7	18.9	14.0	16.5
35	9 30	3 18	9 22a	3 25b	4.2	5.4	2.7	3.9	0.4	0.4	.....	0.6	2.7	1.9	16.5
36	7 00	0 48	6 56a	0 51b	29.0	37.7	18.9	28.1	1.2	1.2	.....	1.7	18.8	14.0	17.0
37	6 45	0 33	6 41a	0 36b	27.9	36.2	18.1	27.0	1.2	1.2	.....	1.7	18.1	13.4	17.0
38	6 10	0 23	6 06a	0 26b	25.3	32.8	16.4	24.4	1.1	1.1	.....	1.6	16.4	12.2	17.0
39	5 45	11 58	5 41a	12 01a	20.9	27.1	13.6	20.1	1.0	1.0	.....	1.5	13.6	10.0	17.5
40	5 46	11 59	5 42a	12 03a	19.3	25.0	12.5	18.4	1.0	1.0	.....	1.4	12.5	9.2	17.5
41	5 30	11 43	5 26a	11 47a	19.9	25.8	12.9	19.0	1.0	1.0	.....	1.4	12.9	9.6	17.5
42	5 40	11 53	5 36a	11 57a	19.5	25.3	12.7	18.7	1.0	1.0	.....	1.4	12.6	9.4	18.0
43	5 41	11 54	5 36a	11 58a	18.5	24.0	12.0	17.7	1.0	1.0	.....	1.4	12.0	9.8	18.0
44	5 41	11 58	5 37a	12 02a	17.4	22.6	11.3	16.7	0.9	0.9	.....	1.3	11.3	8.3	18.0
45	5 40	11 53	5 35a	11 57a	16.1	20.9	10.5	15.4	0.9	0.9	.....	1.3	10.4	7.6	18.0
46	6 35	0 23	6 29a	0 29b	9.4	12.2	6.1	8.9	0.7	0.7	.....	1.0	6.1	4.4	18.0
47	6 44	0 32	6 38a	0 38b	9.1	11.8	5.9	8.6	0.7	0.7	.....	1.0	5.9	4.3	18.0
48	7 20	1 08	7 14a	1 13b	9.9	12.9	6.4	9.4	0.7	0.7	.....	1.0	6.4	4.7	18.0
49	7 25	1 13	7 19a	1 18b	10.9	14.2	7.1	10.4	0.7	0.7	.....	1.1	7.1	5.1	17.5
50	7 35	1 23	7 29a	1 28b	10.9	14.1	7.1	10.4	0.7	0.7	.....	1.1	7.0	5.1	17.5
51	7 50	1 38	7 44a	1 43b	10.9	14.2	7.1	10.4	0.7	0.7	.....	1.1	7.1	5.1	17.5
52	7 35	1 23	7 29a	1 28b	11.4	14.8	7.4	10.8	0.8	0.8	.....	1.1	7.4	5.4	18.0
53	7 24	1 12	7 18a	1 17b	11.5	14.9	7.5	10.9	0.8	0.8	.....	1.1	7.4	5.5	18.0
54	9 20	3 08	9 15a	3 13b	12.0	15.6	7.8	11.4	0.8	0.8	.....	1.1	7.8	5.7	18.0
55	10 15	4 03	10 11a	4 07b	17.9	23.2	11.6	17.2	0.9	0.9	.....	1.3	11.6	8.6	18.0
56	10 00	3 48	9 55a	3 53b	12.2	15.8	7.9	11.6	0.8	0.8	.....	1.1	7.9	5.8	18.0
57	10 10	3 58	10 06a	4 03b	17.1	21.9	11.5	18.6	1.0	1.0	.....	1.4	11.0	9.3	18.0
58	10 40	4 28	10 36a	4 33b	19.3	24.8	12.9	20.9	1.1	1.1	.....	1.5	12.4	10.6	17.5
59	0 00	5 48	-0 06b	5 56b	7.6	9.8	5.1	8.6	0.7	0.7	.....	0.9	4.9	4.3	17.5
60	10 37	4 47	10 34a	4 50b	20.7	26.2	14.1	22.5	1.2	1.3	7 35	1.6	13.1	11.3	17.5
61	10 56	5 16	10 53a	5 18b	21.3	26.7	14.8	22.9	1.1	1.1	7 50	1.5	13.4	11.5	17.5
62	10 50	4 48	10 47a	4 51b	19.3	25.0	12.7	21.0	1.0	1.0	.....	1.4	12.5	10.5	17.5
63	10 20	4 08	10 17a	4 11b	19.6	25.5	12.9	21.3	1.0	1.0	.....	1.4	12.8	10.7	17.5

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.				Ea. Tide.
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.	LW.	
EUROPE (WEST COAST)—Cont'd.											
THE BRITISH ISLANDS—continued.											
England, west coast—Continued.											
		North.	West.				Greenwich time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	Stanner Point, Ribble River	53 45	3 01	0 12	Liverpool.	313	-0 16	-0 48	-1.6	-0.3	
2	Preston, Ribble River	53 45	2 42	0 11	Liverpool.	313	+0 08	-0 24	-9.2	-1.4	
3	Fleetwood, Morecambe Bay	53 56	3 00	0 12	Liverpool.	313	+0 04	-0 28	+0.2	-0.4	
4	Lancaster, Lune River	54 03	2 48	0 11	Liverpool.	313	+0 08	-0 24	-16.6	-1.4	
5	Barrow, Piel Harbor	54 07	3 14	0 13	Liverpool.	313	+1 00	+0 28	+0.6	-0.4	
6	Whitehaven, Solway Firth	54 33	3 36	0 14	Liverpool.	313	+0 06	-0 26	-1.1	-0.3	
7	Workington, Solway Firth	54 39	3 35	0 14	Liverpool.	313	-0 04	-0 36	-1.4	-0.2	
8	Maryport, Solway Firth	54 43	3 30	0 14	Liverpool.	313	+0 16	-0 16	-2.1	-0.1	
9	Silloth, Solway Firth	54 52	3 24	0 14	Liverpool.	313	+0 31	-0 01	-1.4	-0.2	
10	Port Carlisle, Solway Firth	54 56	3 13	0 13	Liverpool.	313	+1 30	+0 33	-6.5	-0.5	
Isle of Man.											
11	Ayre Point	54 25	4 22	0 17	Liverpool.	313	+0 04	-0 28	-6.6	-0.6	
12	Ramsey	54 19	4 22	0 17	Liverpool.	313	+0 09	-0 23	-6.0	-0.4	
13	Douglas	54 09	4 28	0 18	Liverpool.	313	+0 10	-0 22	-6.0	-0.4	
14	Castletown	54 04	4 39	0 19	Liverpool.	313	+0 09	-0 23	-6.6	-0.6	
15	Peel	54 14	4 42	0 19	Liverpool.	313	+0 07	-0 25	-9.8	-1.0	
Scotland, west coast.											
16	Barnkirk or Annan Foot	54 58	3 16	0 13	Greenock.	317	+0 25	+0 39	+15.6	+1.6	
17	Dumfries, Nith R., Solway Firth	55 04	3 36	0 14	Greenock.	317	+0 01	+0 15	-4.8	-0.5	
18	Kirkcudbright	54 50	4 03	0 16	Greenock.	317	-0 48	-0 33	+10.5	+1.1	
19	Wigton	54 51	4 26	0 18	Greenock.	317	-0 25	-0 11	+2.5	+0.3	
20	Newton Stewart	54 57	4 28	0 18	Greenock.	317	+0 05	+0 19	+0.5	+0.1	
21	Port William	54 43	4 33	0 18	Greenock.	317	-0 45	-0 31	+6.0	+0.6	
22	Mull of Galloway	54 38	4 51	0 19	Greenock.	317	-0 39	-0 25	+3.2	+0.4	
23	Port Patrick	54 50	5 07	0 20	Greenock.	317	-0 43	-0 29	+3.2	+0.4	
24	Loch Ryan	55 00	5 09	0 21	Greenock.	317	-0 40	-0 26	-0.5	-0.1	
25	Lamlash, Firth of Clyde	55 31	5 05	0 20	Greenock.	317	-0 08	+0 06	-1.3	-0.2	
26	Ayr, Firth of Clyde	55 28	4 38	0 19	Greenock.	317	-0 04	+0 10	-2.2	-0.2	
27	Ardrossan, Firth of Clyde	55 38	4 49	0 19	Greenock.	317	-0 09	+0 05	-2.2	-0.2	
28	GREENOCK, Firth of Clyde	55 57	4 45	0 19	Greenock.	317	0 00	0 00	0.0	0.0	
29	Dumbarton, Clyde River	55 56	4 33	0 18	Greenock.	317	+0 45	+0 59	+1.1	-0.1	
30	Renfrew, Clyde River	55 54	4 25	0 18	Greenock.	317	+1 15	+1 29	+0.4	0.0	
31	Glasgow, Clyde River	55 52	4 14	0 17	Greenock.	317	+1 34	+1 48	0.0	0.0	
32	Inverary, Loch Fyne	56 14	5 05	0 20	Greenock.	317	+0 07	+0 21	-1.4	-0.2	
33	Campbeltown	55 26	5 36	0 22	Greenock.	317	-0 11	+0 03	-2.4	-0.2	
34	Mull of Cantyre	55 19	5 48	0 23	Greenock.	317	-1 20	-1 06	-6.6	-0.6	
35	Port Ellen, Islay Island	55 37	6 13	0 25	Greenock.	317	+5 37	+5 51	-5.8	-0.6	
36	Crinan	56 06	5 33	0 22	Greenock.	317	+5 19	+5 32	-4.9	-0.5	
37	Schallasaig, Colonsay Island	56 04	6 10	0 25	Greenock.	317	+5 52	+6 05	-0.4	0.0	
38	Oban, Firth of Lorne	56 25	5 28	0 22	Greenock.	317	+5 54	+6 07	+1.4	+0.2	
39	Tobermory, Isle of Mull	56 37	6 04	0 24	Greenock.	317	+6 06	+6 19	+1.4	+0.2	
40	Heynish, Tiree Island	56 29	6 54	0 28	Greenock.	317	+6 05	+6 18	-0.5	+0.1	
41	Loch Moidart	56 48	5 53	0 24	Greenock.	317	+6 16	+6 29	+2.1	+0.3	
42	Loch Nevis	57 01	5 49	0 23	Greenock.	317	+6 20	+6 33	+2.8	+0.4	
43	Kyle Rhea, Isle of Skye	57 14	5 40	0 23	Greenock.	317	-5 50	-5 37	+3.4	+0.4	
44	Kyle Akin, Loch Alsh	57 17	5 44	0 23	Greenock.	317	-5 35	-5 22	+3.9	+0.5	
45	Portree, Isle of Skye	57 24	6 11	0 25	Greenock.	317	-5 18	-5 05	+3.2	+0.4	
46	Loch Torridon	57 35	5 49	0 23	Greenock.	317	-5 30	-5 17	+3.2	+0.4	
47	Poolwee, Loch Ewe	57 47	5 40	0 23	Greenock.	317	-5 15	-5 02	+2.8	+0.4	
48	Ullapool, Loch Broom	57 56	5 14	0 21	Greenock.	317	-5 15	-5 02	+2.8	+0.4	
49	Loch Inver	58 09	5 17	0 21	Greenock.	317	-5 12	-4 59	+2.5	+0.3	
50	Loch Laxford	58 24	5 08	0 21	Greenock.	317	-5 07	-4 54	+3.2	+0.4	
Scotland, north coast.											
51	Cape Wrath	58 38	5 00	0 20	Greenock.	317	-4 23	-4 10	+3.7	+0.5	
52	Loch Eriboll	58 32	4 39	0 19	Greenock.	317	-4 14	-4 01	+3.2	+0.4	
53	Loch Tongue	58 31	4 24	0 18	Greenock.	317	-4 05	-3 52	+3.2	+0.4	
54	Thurso	58 37	3 32	0 11	Greenock.	317	-3 34	-3 34	+2.1	+0.3	
55	Strona Island, south side	58 40	3 07	0 12	Greenock.	317	-2 16	-2 03	-2.1	-0.1	
Ireland, east coast.											
							Dublin time, 6° 20' W.				
56	Red Bay	55 03	6 03	0 24	Kingstown	321	-0 39	-0 26	-6.3	-0.8	
57	Malden Rocks	54 56	5 44	0 23	Kingstown	321	-0 26	-0 13	-3.6	-0.5	
58	Portlaoine	54 40	5 49	0 23	Kingstown	321	-0 14	-0 25	-1.2	-0.3	
59	Baginbodee	54 39	5 32	0 22	Kingstown	321	+0 06	+0 15	+0.4	-0.1	
60	Kilward Point, Lough Strangford	54 18	5 32	0 22	Kingstown	321	-0 18	-0 06	+3.0	+0.1	

STATION.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn.).	Spring (Sg.).	Neap (Np.).	Great tropic. (Gc.).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	10 40	4 28	10 37a	4 31b	19.6	25.4	12.9	21.3	1.0	1.0	.....	1.4	12.7	10.7	17.5
2	11 05	4 53	11 01a	4 57b	13.0	16.9	8.6	14.4	0.8	0.8	.....	1.2	8.4	7.2	17.5
3	11 00	4 48	10 57a	4 51b	21.1	27.4	13.9	22.9	1.0	1.1	.....	1.5	13.7	11.5	17.5
4	11 05	4 53	10 59a	4 59b	6.6	8.5	4.4	7.6	0.6	0.6	.....	0.8	4.2	3.8	17.5
5	11 55	5 43	11 52a	5 46b	21.4	27.8	14.1	23.2	1.0	1.1	.....	1.5	13.9	11.6	17.5
6	11 00	4 48	10 57a	4 51b	19.9	25.9	13.1	21.6	1.0	1.0	.....	1.4	13.0	10.8	18.0
7	10 50	4 38	10 47a	4 41b	19.8	25.7	13.1	21.5	1.0	1.0	.....	1.4	12.8	10.7	18.0
8	11 10	4 58	11 07a	5 01b	19.1	24.8	12.6	20.8	1.0	1.0	.....	1.4	12.4	10.5	18.0
9	11 25	5 13	11 22a	5 16b	19.8	25.7	13.1	21.5	1.0	1.0	.....	1.4	12.8	10.7	18.0
10	0 00	5 48	--0 04b	5 52b	15.3	19.8	10.1	16.9	0.9	0.9	.....	1.3	9.9	8.4	18.0
11	10 55	4 43	10 51a	4 47b	15.2	19.7	10.0	16.8	0.9	0.9	.....	1.2	9.8	8.4	18.5
12	11 00	4 48	10 56a	4 52b	15.8	20.5	10.4	17.4	0.9	0.9	.....	1.3	10.2	8.7	18.5
13	11 00	4 48	10 56a	4 52b	15.8	20.5	10.4	17.4	0.9	0.9	.....	1.3	10.2	8.7	18.5
14	10 58	4 46	10 54a	4 50b	15.2	19.7	10.0	16.8	0.9	0.9	.....	1.2	9.8	8.4	18.5
15	10 56	4 44	10 52a	4 48b	12.4	16.1	8.2	13.8	0.8	0.8	.....	1.1	8.0	6.9	18.5
16	12 15	6 03	12 13a	6 06b	23.1	28.5	17.2	24.5	1.2	0.8	.....	1.4	14.2	12.2	18.0
17	11 50	5 38	11 46a	5 45b	4.9	6.0	3.6	5.5	0.6	0.3	.....	0.7	3.0	2.7	18.0
18	11 00	4 48	10 58a	4 52b	18.6	22.9	13.8	19.9	1.1	0.7	.....	1.3	11.4	9.9	18.5
19	11 20	5 08	11 17a	5 13b	11.4	14.0	8.4	12.4	0.9	0.6	.....	1.0	7.0	6.1	18.5
20	11 50	5 38	11 47a	5 43b	9.6	11.8	7.1	10.5	0.8	0.5	.....	0.9	5.9	5.2	18.5
21	11 00	4 48	11 58a	4 52b	14.5	17.9	10.8	15.6	1.0	0.6	.....	1.1	9.0	7.7	18.5
22	11 05	4 53	11 03a	4 58b	12.0	14.8	8.9	13.0	0.9	0.5	.....	1.0	7.4	6.4	18.5
23	11 00	4 48	10 57a	4 53b	11.9	14.7	8.8	12.9	0.9	0.5	.....	1.0	7.4	6.4	19.0
24	11 02	4 50	10 59a	4 55b	8.9	10.9	6.6	9.8	0.8	0.5	.....	0.9	5.4	4.8	19.0
25	11 35	5 23	11 32a	5 28b	8.0	9.8	5.9	8.8	0.7	0.4	.....	0.8	4.9	4.3	19.0
26	11 40	5 28	11 36a	5 34b	7.1	8.7	5.2	7.9	0.7	0.4	.....	0.8	4.4	3.9	19.0
27	11 35	5 23	11 31a	5 29b	7.2	8.8	5.3	8.0	0.7	0.4	.....	0.8	4.4	3.9	19.0
28	11 44	5 18	11 41a	5 23b	9.1	11.2	6.8	10.0	0.8	0.5	9 31	0.9	5.6	4.9	19.0
29	0 05	6 18	0 02b	6 24b	8.2	10.1	6.1	9.0	0.7	0.5	.....	0.9	5.0	4.5	19.0
30	0 35	6 48	0 32b	6 54b	8.8	10.8	6.5	9.7	0.8	0.5	.....	0.9	5.4	4.8	19.0
31	0 55	7 08	0 52b	7 14b	9.1	11.2	6.7	10.0	0.8	0.5	.....	0.9	5.6	5.0	19.0
32	11 50	5 38	11 47a	5 43b	7.9	9.7	5.8	8.7	0.7	0.4	.....	0.8	4.8	4.3	19.5
33	11 30	5 18	11 26a	5 25b	7.0	8.6	5.2	7.8	0.7	0.4	.....	0.8	4.3	3.8	19.5
34	10 20	4 08	10 15a	4 16b	3.2	4.0	2.4	3.8	0.5	0.3	.....	0.5	2.0	1.8	19.5
35	4 50	11 03	4 44b	11 12a	3.9	4.8	2.9	4.5	0.5	0.3	.....	0.6	2.4	2.2	20.0
36	4 35	10 47	4 30b	10 55a	4.7	5.8	3.5	5.3	0.5	0.3	.....	0.7	2.9	2.6	19.5
37	5 05	11 17	5 01b	11 22a	8.9	10.9	6.6	9.8	0.8	0.5	.....	0.9	5.4	4.8	20.0
38	5 10	11 22	5 08b	11 26a	10.4	12.8	7.7	11.3	0.8	0.5	.....	1.0	6.4	5.6	19.5
39	5 20	11 32	5 18b	11 36a	10.5	12.9	7.8	11.4	0.8	0.5	.....	1.0	6.4	5.6	20.0
40	5 15	11 27	5 12b	11 32a	9.6	11.8	7.1	10.5	0.8	0.5	.....	0.9	5.9	5.2	20.5
41	5 30	11 42	5 27b	11 47a	11.0	13.5	8.1	11.9	0.8	0.5	.....	1.1	6.8	5.9	20.0
42	5 35	11 47	5 33b	11 51a	11.7	14.4	8.7	12.7	0.9	0.5	.....	1.1	7.2	6.2	20.0
43	5 50	12 02	5 48b	12 06a	12.2	15.0	9.0	13.2	0.9	0.6	.....	1.1	7.5	6.5	20.0
44	6 05	12 17	6 03b	12 21a	12.6	15.5	9.3	13.6	0.9	0.6	.....	1.2	7.8	6.7	20.0
45	6 20	0 07	6 18b	0 11b	12.0	14.8	8.9	13.0	0.9	0.6	.....	1.1	7.4	6.4	20.5
46	6 10	12 22	6 08b	0 02b	12.1	14.9	9.0	13.1	0.9	0.6	.....	1.1	7.4	6.4	20.0
47	6 25	0 12	6 23b	0 16b	11.7	14.4	8.7	12.7	0.8	0.5	.....	1.1	7.2	6.2	20.0
48	6 27	0 14	6 25b	0 18b	11.6	14.3	8.6	12.6	0.8	0.5	.....	1.1	7.2	6.2	20.0
49	6 30	0 17	6 28b	0 21b	11.4	14.0	8.4	12.3	0.8	0.5	.....	1.0	7.0	6.1	20.0
50	6 35	0 22	6 33b	0 26b	12.0	14.8	8.9	13.0	0.9	0.6	.....	1.1	7.4	6.4	20.0
51	7 20	1 07	7 18a	1 11b	12.5	15.4	9.3	13.5	0.9	0.6	.....	1.1	7.7	6.6	20.0
52	7 30	1 17	7 28a	1 22b	12.0	14.7	8.8	12.8	0.8	0.5	.....	1.1	7.4	6.4	19.5
53	7 40	1 27	7 38a	1 32b	12.1	14.9	9.0	13.1	0.9	0.6	.....	1.1	7.4	6.4	19.5
54	8 15	1 49	8 13a	1 53b	11.0	13.5	8.1	11.9	0.8	0.5	.....	1.0	6.8	5.9	19.0
55	9 35	3 22	9 31a	3 28b	7.3	9.0	5.4	8.0	0.6	0.4	.....	0.8	4.5	3.9	19.0
56	10 15	4 03	10 10a	4 11b	3.2	3.8	2.6	3.8	0.5	0.3	.....	0.5	1.9	1.8	19.5
57	10 30	4 18	10 26a	4 25b	5.6	6.7	4.5	6.2	0.6	0.3	.....	0.7	3.4	3.0	19.5
58	10 42	4 06	10 38a	4 11b	7.9	9.3	6.3	8.7	0.7	0.4	.....	0.8	4.7	4.3	19.5
59	11 00	4 48	10 56a	4 54b	9.3	11.1	7.4	10.2	0.8	0.5	.....	0.9	5.6	5.0	19.0
60	10 40	4 28	10 36a	4 32b	11.7	13.9	9.4	12.7	0.9	0.6	.....	1.0	7.0	6.3	19.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.			Standard port for reference.		Tidal differences.					
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		Ratio of range.	
			Arc.	Time.			H.W.	L.W.	H.W.	L.W.		
EUROPE (WEST COAST)—Cont'd.												
THE BRITISH ISLANDS—continued.												
Ireland, east coast—Continued.												
		North.	West.					Dublin time, 6° 20' West.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.				h. m.	h. m.	feet.	feet.	
1	Strangford.....	54 21	5 34	0 22	Kingstown.....	319	+1 42	+1 30	-0.3	-0.2	0.9	
2	Newcastle, Dundrum Bay.....	54 11	5 54	0 24	Kingstown.....	319	-0 08	+0 10	+3.3	+0.4	1.34	
3	Cranfield Pt., Carlingford Lough.....	54 01	6 04	0 24	Kingstown.....	319	-0 08	+0 05	+4.4	+0.5	1.4	
4	Newry, Carlingford Lough.....	54 09	6 22	0 25	Kingstown.....	319	+0 38	+0 51	+2.0	+0.3	1.29	
5	Dundalk.....	53 59	6 18	0 25	Kingstown.....	319	-0 12	+0 01	+3.5	+0.4	1.2	
6	Drogheda, Boyne River.....	53 43	6 15	0 25	Kingstown.....	319	-0 07	+0 06	+0.6	+0.1	1.2	
7	Balbriggan.....	53 37	6 11	0 25	Kingstown.....	319	-0 27	-0 14	+1.7	+0.2	1.3	
8	Howth.....	53 24	6 04	0 24	Kingstown.....	319	+0 02	+0 15	+1.7	+0.2	1.1	
9	Dublin, Poolbeg Light.....	53 20	6 09	0 25	Kingstown.....	319	+0 08	+0 21	+1.9	+0.2	1.1	
10	KINGSTOWN, Dublin Bay.....	53 18	6 08	0 25	Kingstown.....	319	0 00	0 00	0.0	0.0	1.1	
11	Bray Head.....	53 11	6 07	0 24	Kingstown.....	319	-0 23	-0 10	+0.8	+0.1	1.1	
12	Wicklow.....	52 58	6 00	0 24	Kingstown.....	319	-0 43	-0 30	-1.9	-0.2	0.9	
13	Arklow.....	52 47	6 11	0 25	Kingstown.....	319	-3 07	-2 54	-6.4	-0.7	0.9	
14	Wexford.....	52 19	6 28	0 26	Kingstown.....	319	-3 46	-3 33	-5.5	-0.6	0.9	
15	Tuskar.....	52 12	6 13	0 25	Kingstown.....	319	-5 22	-6 09	-1.9	-0.2	0.9	
Ireland, south coast.												
16	Carnsore.....	52 09	6 22	0 25	Queenstown.....	323	+1 04	+0 51	-2.9	-0.3	0.7	
17	Coninbeg Rock, Saltee Islands.....	52 02	6 40	0 27	Queenstown.....	323	+0 46	+0 33	+0.6	+0.2	1.3	
18	Waterford, Duncannon Fort.....	52 13	6 56	0 28	Queenstown.....	323	+0 27	+0 14	+0.2	+0.2	1.3	
19	Dungarvan Light, Ballinacourty.....	52 04	7 33	0 30	Queenstown.....	323	+0 24	+0 11	+0.2	+0.1	2.0	
20	Youghal.....	51 57	7 51	0 31	Queenstown.....	323	+0 27	+0 14	+0.4	+0.2	1.2	
21	Ballycotton.....	51 50	7 59	0 32	Queenstown.....	323	+0 06	-0 07	-0.3	+0.1	0.9	
22	QUEENSTOWN.....	51 51	8 18	0 33	Queenstown.....	323	0 00	0 00	0.0	0.0	1.3	
23	Kinsale.....	51 42	8 30	0 34	Queenstown.....	323	-0 02	-0 15	-0.7	0.0	1.3	
24	Courtmacsherry.....	51 36	8 40	0 35	Queenstown.....	323	-0 11	-0 24	-1.3	0.0	1.3	
25	Clonakilty Bay.....	51 35	8 52	0 35	Queenstown.....	323	-0 16	-0 29	-1.2	-0.1	1.3	
26	Castletownsend.....	51 30	9 10	0 37	Queenstown.....	323	-0 19	-0 32	-1.4	-0.1	0.9	
27	Baltimore.....	51 28	9 24	0 38	Queenstown.....	323	-0 16	-0 29	-1.9	-0.2	0.9	
28	Cape Clear.....	51 24	9 32	0 38	Queenstown.....	323	-0 38	-0 51	-3.0	-0.3	0.9	
29	Crookhaven.....	51 29	9 43	0 39	Queenstown.....	323	-0 30	-0 43	-1.6	-0.2	0.9	
Ireland, west coast.												
30	Dunmanus Harbor.....	51 30	9 44	0 39	Queenstown.....	323	-0 47	0 00	-2.5	-0.1	0.7	
31	Castletown, Bearhaven.....	51 37	9 53	0 40	Queenstown.....	323	-0 26	-0 39	-2.4	0.0	0.7	
32	Valentia Harbor.....	51 56	10 19	0 41	Queenstown.....	323	-0 55	-1 08	-1.3	+0.1	0.9	
33	Castlemaine.....	52 08	9 43	0 39	Queenstown.....	323	-0 12	-0 25	+1.7	+0.7	1.1	
34	Dingle.....	52 07	10 16	0 41	Queenstown.....	323	-0 45	-0 58	-1.4	+0.2	0.8	
35	Smerwick Harbor.....	52 11	10 24	0 42	Queenstown.....	323	-0 44	-0 57	-0.8	+0.3	0.9	
36	Tralee.....	52 16	9 53	0 40	Queenstown.....	323	-0 36	-0 49	0.0	+0.4	0.9	
37	Carrigaholt, Shannon River.....	52 35	9 41	0 39	Queenstown.....	323	+0 03	-0 10	+1.3	+0.5	1.1	
38	Tarbert, Shannon River.....	52 36	9 22	0 37	Queenstown.....	323	+0 13	0 00	+1.7	+0.7	1.1	
39	Limerick, Shannon River.....	52 39	8 38	0 35	Queenstown.....	323	+1 29	+1 41	+3.6	+1.3	1.3	
40	Liscannor Bay.....	52 55	9 21	0 37	Queenstown.....	323	-0 19	-0 32	+1.1	+0.5	1.3	
41	Killeany, Arran Islands.....	53 07	9 38	0 39	Queenstown.....	323	-0 12	-0 25	+0.9	+0.5	1.3	
42	Galway.....	53 14	9 04	0 36	Queenstown.....	323	-0 11	-0 37	-2.3	+0.7	1.3	
43	Kilkievan Cove.....	53 17	9 41	0 39	Queenstown.....	323	-0 07	-0 20	+2.5	-0.8	1.3	
44	Slyne Head.....	53 24	10 14	0 41	Queenstown.....	323	-0 09	-0 22	+0.8	-0.5	1.3	
45	Inishboffin.....	53 37	10 15	0 41	Queenstown.....	323	-0 05	-0 18	-0.2	+0.3	0.9	
46	Clare Island, Clew Bay.....	53 50	10 00	0 40	Queenstown.....	323	-0 01	-0 14	-0.2	+0.3	0.9	
47	Westport, Clew Bay.....	53 47	9 32	0 38	Queenstown.....	323	+0 12	-0 01	+0.4	+0.5	0.9	
48	Broadhaven Harbor.....	54 13	9 53	0 40	Kingstown.....	319	+6 39	+6 52	-0.8	+0.4	0.9	
49	Killala Bay.....	54 14	9 12	0 37	Kingstown.....	319	+6 55	+7 08	-0.9	+0.3	0.9	
50	Sligo Harbor, Oyster Island.....	54 18	8 34	0 34	Kingstown.....	319	+6 52	+7 05	+0.1	+0.5	0.9	
51	Mullaghmore, Sligo Bay.....	54 27	8 26	0 34	Kingstown.....	319	+6 47	+7 00	0.0	+0.4	0.9	
52	Donegal.....	54 37	8 07	0 32	Kingstown.....	319	+6 45	+6 58	+0.1	+0.5	0.9	
53	Killybegs.....	54 35	8 27	0 34	Kingstown.....	319	+6 45	+6 58	0.0	+0.4	0.9	
54	Lough Rossmore.....	54 47	8 31	0 34	Kingstown.....	319	+6 49	+7 02	-0.4	+0.4	0.9	
Ireland, north coast.												
55	Ballyness Bar.....	55 08	8 08	0 33	Kingstown.....	319	+6 51	+7 04	+0.2	+0.4	0.9	
56	Sheephaven.....	55 11	7 53	0 32	Kingstown.....	319	+7 00	+7 13	+0.4	+0.4	1.0	
57	Mulroy Bay Bar.....	55 15	7 45	0 31	Kingstown.....	319	+7 07	+7 20	+0.4	+0.4	0.9	
58	Rathmullan, Lough Swilly.....	55 08	7 30	0 30	Kingstown.....	319	+7 08	+7 21	+1.0	+0.6	1.0	
59	Culdaff Bay.....	55 18	7 10	0 29	Kingstown.....	319	+7 17	+7 30	-2.2	+0.2	0.7	
60	Moville, Lough Foyle.....	55 10	7 02	0 28	Kingstown.....	319	+8 31	+8 44	-3.2	0.0	0.9	
61	Londonderry, Lough Foyle.....	54 59	7 21	0 29	Kingstown.....	319	+9 25	+9 37	-2.8	0.0	0.9	
62	Coleraine.....	55 09	6 45	0 27	Kingstown.....	319	+7 47	+8 00	-4.3	-0.2	0.9	
63	Port Rush.....	55 13	6 32	0 26	Kingstown.....	319	+7 29	+8 07	-5.3	-0.3	0.9	
64	Ballycastle Bay.....	55 12	6 15	0 25	Kingstown.....	319	+7 43	+8 21	-7.4	-0.6	0.9	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i>
1	0 15	6 03	0 12b	6 08b	8.7	10.4	7.0	9.6	0.8	0.4	.....	0.9	5.2	4.8	19.0
2	10 50	4 38	10 47a	4 41b	11.7	14.6	8.5	11.3	0.7	0.8	.....	1.1	7.3	5.6	19.0
3	10 45	4 33	10 42a	4 36b	12.6	15.8	9.2	12.2	0.8	0.8	.....	1.1	7.9	6.1	19.0
4	11 30	5 18	11 27a	5 21b	10.5	13.1	7.7	10.1	0.7	0.8	.....	1.0	6.6	5.0	19.5
5	10 40	4 28	10 37a	4 31b	11.9	14.9	8.7	11.5	0.8	0.8	.....	1.1	7.4	5.7	19.5
6	10 45	4 33	10 42a	4 36b	9.3	11.6	6.8	8.9	0.7	0.7	.....	1.0	5.8	4.4	19.5
7	10 25	4 13	10 22a	4 16b	10.2	12.8	7.5	9.8	0.7	0.7	.....	1.0	6.4	4.9	19.0
8	10 55	4 43	10 52a	4 46b	10.2	12.7	7.5	9.8	0.7	0.7	.....	1.0	6.4	4.9	19.0
9	11 00	4 48	10 57a	4 51b	10.4	13.0	7.6	10.0	0.7	0.7	.....	1.0	6.5	5.0	19.0
10	10 52	4 27	10 49a	4 30b	8.8	10.9	6.4	8.4	0.7	0.7	.....	1.0	5.4	4.2	19.0
11	10 30	4 18	10 27a	4 21b	9.4	11.8	6.9	9.0	0.7	0.7	.....	1.0	5.9	4.5	19.0
12	10 10	3 58	10 06a	4 02b	7.0	8.7	5.1	6.7	0.6	0.6	.....	0.9	4.4	3.3	19.0
13	7 45	1 33	7 39a	1 39b	3.0	3.8	2.2	2.8	0.4	0.4	.....	0.6	1.9	1.4	19.0
14	7 05	0 53	7 01a	0 57b	3.9	4.9	2.9	3.7	0.4	0.5	.....	0.6	2.4	1.8	19.0
15	5 30	11 43	5 26a	11 47a	7.0	8.8	5.1	6.7	0.6	0.6	.....	0.9	4.4	3.3	19.0
16	5 45	11 58	5 42a	12 00a	6.9	8.9	4.5	7.1	0.6	0.4	.....	0.7	4.4	3.5	19.0
17	5 25	11 38	5 23a	11 40a	9.9	12.8	6.4	10.2	0.7	0.5	.....	0.8	6.4	5.1	19.0
18	5 05	11 18	5 03a	11 20a	9.5	12.3	6.2	9.8	0.7	0.5	.....	0.8	6.2	4.9	19.0
19	5 00	11 13	4 58a	11 15a	9.6	12.4	6.2	9.9	0.7	0.5	.....	0.8	6.2	5.0	19.5
20	5 02	11 15	5 00a	11 17a	9.7	12.6	6.3	10.0	0.7	0.5	.....	0.8	6.3	5.0	19.5
21	4 40	10 53	4 38a	10 55a	9.1	11.8	5.9	9.4	0.7	0.5	.....	0.8	5.9	4.7	19.5
22	4 33	10 59	4 31a	11 01a	9.5	11.9	6.6	9.6	0.7	0.5	6 48	0.8	6.0	4.8	20.0
23	4 30	10 43	4 28a	10 45a	8.8	11.4	5.7	9.1	0.7	0.5	.....	0.8	5.7	4.5	20.0
24	4 20	10 33	4 18a	10 35a	8.2	10.7	5.3	8.5	0.6	0.4	.....	0.7	5.4	4.2	20.0
25	4 15	10 28	4 13a	10 30a	8.4	10.9	5.5	8.7	0.6	0.4	.....	0.7	5.4	4.3	20.0
26	4 10	10 23	4 08a	10 25a	8.2	10.6	5.3	8.5	0.6	0.4	.....	0.7	5.3	4.2	20.0
27	4 12	10 25	4 10a	10 27a	7.8	10.1	5.1	8.1	0.6	0.4	.....	0.7	5.0	4.0	20.0
28	3 50	10 03	3 48a	10 05a	6.8	8.8	4.4	7.1	0.6	0.4	.....	0.7	4.4	3.6	20.5
29	3 57	10 10	3 55a	10 12a	7.5	9.7	4.9	7.8	0.6	0.4	.....	0.7	4.8	3.9	20.5
30	3 40	9 53	3 39a	9 55a	7.0	9.4	4.1	7.4	0.4	0.7	.....	0.8	4.7	3.8	20.5
31	4 00	10 13	3 59a	10 15a	7.1	9.6	4.1	7.5	0.4	0.7	.....	0.8	4.8	3.9	20.5
32	3 30	9 43	3 29a	9 45a	8.0	10.8	4.6	8.4	0.4	0.8	.....	0.8	5.4	4.3	21.0
33	4 15	10 28	4 14a	10 29a	10.6	14.3	6.2	11.1	0.5	0.9	.....	1.0	7.2	5.6	20.5
34	3 40	9 53	3 39a	9 55a	7.9	10.7	4.6	8.3	0.4	0.8	.....	0.8	5.4	4.3	21.0
35	3 40	9 53	3 39a	9 55a	8.4	11.4	4.9	8.8	0.4	0.8	.....	0.9	5.7	4.5	21.0
36	3 50	10 03	3 49a	10 05a	9.1	12.3	5.3	9.5	0.5	0.8	.....	0.9	6.2	4.9	20.5
37	4 30	10 43	4 29a	10 45a	10.2	13.8	5.9	10.7	0.5	0.9	.....	1.0	6.9	5.4	20.5
38	4 42	10 55	4 41a	10 56a	10.6	14.3	6.2	11.1	0.5	0.9	.....	1.0	7.2	5.6	20.5
39	6 00	0 13	5 59a	0 14b	13.8	18.7	8.0	14.3	0.6	1.0	.....	1.1	9.4	7.3	20.5
40	4 10	10 23	4 09a	10 25a	10.1	13.7	5.9	10.6	0.5	0.9	.....	1.0	6.8	5.4	20.5
41	4 15	10 28	4 14a	10 30a	9.9	13.4	5.7	10.4	0.5	0.9	.....	1.0	6.7	5.2	21.0
42	4 19	10 19	4 18a	10 20a	11.1	15.1	6.4	11.6	0.5	0.9	.....	1.0	7.5	5.9	21.0
43	4 20	10 33	4 19a	10 34a	11.2	15.1	6.5	11.7	0.5	0.9	.....	1.0	7.6	5.8	21.0
44	4 16	10 29	4 15a	10 30a	9.8	13.2	5.7	10.3	0.5	0.8	.....	0.9	6.6	5.1	21.0
45	4 20	10 33	4 19a	10 35a	9.0	12.1	5.2	9.4	0.5	0.8	.....	0.9	6.0	4.7	21.5
46	4 25	10 38	4 24a	10 40a	9.0	12.2	5.2	9.4	0.5	0.8	.....	0.9	6.1	4.7	21.5
47	4 40	10 53	4 39a	10 55a	9.4	12.7	5.5	9.8	0.5	0.8	.....	0.9	6.4	4.9	21.0
48	4 50	11 03	4 49a	11 05a	7.7	10.4	4.5	8.1	0.4	0.8	.....	0.8	5.2	4.0	21.5
49	5 10	11 23	5 09a	11 25a	7.6	10.2	4.4	7.9	0.4	0.8	.....	0.8	5.1	4.0	21.0
50	5 10	11 23	5 09a	11 25a	8.4	11.4	4.9	8.8	0.4	0.8	.....	0.9	5.7	4.4	20.5
51	5 05	11 18	5 04a	11 20a	8.3	11.2	4.8	8.7	0.4	0.8	.....	0.9	5.6	4.4	20.5
52	5 05	11 18	5 04a	11 20a	8.4	11.4	4.9	8.8	0.4	0.8	.....	0.9	5.7	4.4	20.5
53	5 03	11 16	5 02a	11 18a	8.3	11.2	4.8	8.7	0.4	0.8	.....	0.9	5.6	4.4	21.0
54	5 07	11 20	5 06a	11 22a	8.1	10.9	4.7	8.5	0.4	0.8	.....	0.8	5.4	4.2	21.0
55	5 10	11 23	5 09a	11 25a	8.6	11.4	5.3	9.0	0.4	0.8	.....	0.9	5.7	4.5	21.0
56	5 20	11 33	5 19a	11 35a	8.8	11.7	5.4	9.2	0.4	0.8	.....	0.9	5.8	4.6	20.5
57	5 28	11 41	5 27a	11 43a	8.7	11.6	5.3	9.1	0.4	0.8	.....	0.9	5.8	4.5	20.5
58	5 30	11 43	5 29a	11 45a	9.3	12.4	5.7	9.7	0.5	0.9	.....	1.0	6.2	4.8	20.5
59	5 40	11 53	5 39a	11 55a	6.5	8.7	4.0	6.9	0.3	0.7	.....	0.8	4.4	3.5	20.5
60	6 55	0 43	6 54a	0 45b	5.6	7.5	3.4	6.0	0.3	0.7	.....	0.8	3.8	3.0	20.0
61	7 48	1 35	7 47a	1 37b	6.0	8.0	3.6	6.4	0.3	0.7	.....	0.8	4.0	3.2	20.5
62	6 12	0 00	6 11a	0 02b	4.7	6.2	2.9	5.1	0.3	0.7	.....	0.8	3.1	2.6	20.0
63	5 55	0 08	5 54a	0 10b	3.8	5.1	2.3	4.2	0.3	0.7	.....	0.8	2.6	2.1	20.0
64	6 10	0 23	6 09a	0 25b	2.1	2.8	1.3	2.5	0.2	0.6	.....	0.7	1.4	1.3	20.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.		Standard port for reference.		Tidal differences.				Ratio of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.		LW.
EUROPE (WEST COAST)—Cont'd.											
THE BRITISH ISLANDS—continued.											
Hebrides, or Western Isles.		North.	West.				Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.			h. m.	h. m.	feet.	feet.	
1	St. Kilda Island	57 48	8 35	0 34	Kingstown	321	+6 53	+7 06	+0.8	+0.6	
2	Barra Head, Bernera Island	56 47	7 39	0 31	Kingstown	321	+7 08	+7 20	-0.1	+0.5	
3	Loch Skipport, S. Uist	57 20	7 08	0 29	Kingstown	321	+7 15	+7 27	+1.0	+0.6	
4	Loch Boisdale, S. Uist	57 09	7 10	0 29	Kingstown	321	+7 08	+7 20	+1.3	+0.7	
5	Loch Maddy, N. Uist	57 36	7 06	0 28	Kingstown	321	+7 28	+7 40	+1.2	+0.6	
6	Monach Island Light	57 32	7 42	0 31	Kingstown	321	+7 07	+7 19	+0.8	+0.6	
7	East Loch Tarbert, Harris Id.	57 51	6 45	0 27	Kingstown	321	+7 29	+7 41	+2.0	+0.8	
8	West Loch Tarbert, Harris Id.	57 55	6 55	0 28	Kingstown	321	+7 23	+7 35	+0.4	+0.4	
9	Stornoway, Lewis Island	58 11	6 22	0 25	Kingstown	321	+8 08	+8 20	+1.8	+0.8	
10	Bernera, Loch Roag, Lewis Id.	58 14	6 50	0 27	Kingstown	321	+7 33	+7 45	-0.2	+0.4	
Orkney Islands.											
11	Stromness, Mainland, or Pomona I.	58 58	8 31	0 14	Kingstown	321	-2 02	-1 50	-1.2	+0.4	
12	Kirkwall, Mainland, or Pomona I.	58 59	2 58	0 12	Kingstown	321	-0 55	-0 43	-1.2	+0.2	
13	Otterswick, Sanday Island	59 16	2 33	0 10	Kingstown	321	-1 50	-1 38	-0.2	+0.4	
Shetland Islands.											
14	Scaddon, Fair Isle	59 31	1 39	0 07	Kingstown	321	-0 03	+0 09	-5.4	-0.4	
15	Sumburgh Head, Mainland Id.	59 51	1 16	0 05	Kingstown	321	-1 18	-1 05	-5.4	-0.3	
16	Lerwick, Mainland Island	60 09	1 10	0 05	Kingstown	321	-0 33	-0 11	-4.6	-0.2	
17	Balta, Unst Island	60 45	0 50	0 03	Kingstown	321	-1 23	-1 11	-4.2	-0.2	
FAROE ISLANDS.											
18	Fuglœ Fiord	62 19	6 18	0 25	Hamburg	329	+6 11	+4 53	-0.7	+0.7	
19	Leervigo Fiord	62 15	6 43	0 27	Hamburg	329	+7 51	+6 33	-0.7	+0.8	
20	Myggenæs Fiord	62 08	7 28	0 30	Hamburg	329	+8 56	+2 38	+1.7	+1.1	
21	Suderø Fiord	61 42	7 00	0 28	Hamburg	329	+0 56	-0 22	-2.8	+0.5	
BELGIUM.											
		East.		Greenwich time.							
22	Nieuport	51 09	2 43	0 11	Dover	305	+1 21	+0 20	-2.7	+0.1	
23	Ostende	51 14	2 56	0 12	Dover	305	+1 17	+0 30	-2.4	+0.2	
24	Blankenberghe	51 19	3 07	0 12	Dover	305	+1 15	+0 14	-5.6	-0.2	
25	Antwerp, Scheldt River	51 14	4 24	0 18	Dover	305	+5 19	+4 18	-3.5	+0.1	
26	Liefkenshoek, Scheldt River	51 18	4 17	0 17	Dover	305	+4 20	+3 19	-2.1	+0.3	
NETHERLANDS, OR HOLLAND.											
				Amsterdam time, 4° 55' East.							
27	Vlissingen or Flushing, Schelde R.	51 26	3 34	0 14	Hamburg	329	-4 12	-5 09	+7.4	+1.1	
28	Ter Neuzen, Schelde R.	51 21	3 50	0 15	Hamburg	329	-3 45	-4 44	+8.1	+1.0	
29	Hansweert, Schelde R.	51 26	4 00	0 16	Hamburg	329	-2 57	-4 06	+8.8	+0.9	
30	Wemeldinge	51 31	3 59	0 16	Hamburg	329	-2 28	-4 14	+6.4	+0.6	
31	Zierikzee	51 38	3 54	0 16	Hamburg	329	-2 52	-4 34	+3.9	+0.6	
32	Brouwershaven	51 43	3 55	0 16	Hamburg	329	-3 13	-4 51	+2.4	+0.5	
33	Hellevoetsluis	51 49	4 08	0 17	Hamburg	329	-2 29	-2 53	+0.2	+0.3	
34	Willemstad	51 42	4 26	0 18	Hamburg	329	-1 33	-1 51	+1.0	+0.2	
35	Dordrecht, Oude-Maas R.	51 48	4 40	0 19	Hamburg	329	-0 10	+0 03	-0.2	+0.2	
36	Gorinchem, Rhine R.	51 50	5 00	0 20	Hamburg	329	+0 34	+1 49	-3.0	+0.1	
37	Rotterdam, Nieuwe-Maas R.	51 55	4 29	0 18	Hamburg	329	-1 14	-1 02	-1.1	+0.1	
38	Hoek van Holland	51 59	4 08	0 17	Hamburg	329	-3 12	-3 33	-0.4	+0.3	
39	Ymuiden	52 24	4 34	0 18	Hamburg	329	-2 22	-1 54	-0.3	+0.4	
40	Helder	52 58	4 46	0 19	Hamburg	329	+0 14	+0 22	-2.2	+0.2	
41	Vlissingen	53 18	4 04	0 20	Hamburg	329	+3 13	+2 01	-0.5	+0.3	
42	Harlingen, Zuider Zee	53 11	5 24	0 22	Hamburg	329	+3 50	+3 24	-1.8	+0.2	
43	Durgherdam, Zuider Zee	52 23	4 59	0 20	Hamburg	329	-4 38	-5 49	-5.1	0.0	
44	West Terschelling Light	53 21	5 13	0 21	Hamburg	329	+3 14	+1 59	-1.4	+0.2	
45	Ameland Island Light	53 27	5 37	0 22	Hamburg	329	+3 53	+2 38	-1.2	+0.2	
46	Schiermonnikoog Island Light	53 29	6 09	0 25	Hamburg	329	+4 10	+2 55	-1.6	+0.2	
47	Delfzyl, Ems River	53 20	6 56	0 28	Hamburg	329	+5 56	+4 54	+3.7	+0.5	
GERMANY.											
North Sea.				Time meridian, 15° East.							
48	Emden, Ems River	53 21	7 11	0 29	Hamburg	329	-4 01	-5 19	+1.6	+0.8	
49	Borkum Island, Ems River Entr.	53 35	6 40	0 27	Hamburg	329	-6 28	-7 45	-0.2	+0.6	
50	Norderney Light	53 43	7 13	0 29	Hamburg	329	-5 45	-7 02	+0.2	+0.6	
51	Wangeroog Island, Jade R. Entr.	53 47	7 54	0 32	Hamburg	329	-5 26	-6 43	+0.9	+0.8	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plancol—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	5 20	11 32	5 19a	11 34a	9.0	12.2	5.2	9.4	0.5	0.9	.....	1.0	6.1	4.7	22.0
2	5 35	11 47	5 34a	11 49a	8.2	11.1	4.8	8.6	0.4	0.8	.....	0.9	5.6	4.3	21.0
3	5 42	11 54	5 41a	11 56a	9.1	12.3	5.3	9.5	0.5	0.9	.....	1.0	6.2	4.8	21.0
4	5 35	11 47	5 34a	11 49a	9.4	12.7	5.5	9.8	0.5	0.9	.....	1.0	6.4	4.9	21.0
5	5 55	12 07	5 54a	12 09a	9.3	12.6	5.4	9.7	0.5	0.9	.....	1.0	6.3	4.8	21.0
6	5 34	11 46	5 33a	11 48a	9.0	12.2	5.2	9.4	0.5	0.9	.....	1.0	6.1	4.7	21.0
7	5 56	12 08	5 55a	12 10a	10.0	13.5	5.8	10.4	0.5	0.9	.....	1.0	6.8	5.2	21.0
8	5 50	12 02	5 49a	12 04a	8.7	11.7	5.0	9.1	0.4	0.8	.....	0.9	5.8	4.5	21.0
9	6 35	0 22	6 34a	0 22b	9.9	13.4	5.7	10.3	0.5	0.9	.....	1.0	6.7	5.1	21.0
10	6 00	12 12	5 59a	12 14a	8.1	11.0	4.7	8.5	0.4	0.8	.....	0.9	5.5	4.2	21.0
11	8 50	2 37	8 49a	2 39b	7.3	9.9	4.2	7.7	0.3	0.7	.....	0.8	5.0	3.8	19.0
12	9 57	3 44	9 56a	3 46b	7.3	9.8	4.2	7.7	0.3	0.7	.....	0.8	4.9	3.8	19.0
13	9 03	2 50	9 02a	2 52b	8.1	11.0	4.7	8.5	0.4	0.8	.....	0.9	5.5	4.3	18.5
14	10 50	4 37	10 49a	4 39b	3.7	5.0	2.2	4.1	0.2	0.6	.....	0.7	2.5	2.1	18.0
15	9 35	3 22	9 34a	3 24b	3.8	5.2	2.2	4.2	0.2	0.6	.....	0.7	2.6	2.1	18.0
16	10 20	4 17	10 19a	4 19b	4.4	6.0	2.6	4.8	0.3	0.7	.....	0.8	3.0	2.4	18.0
17	9 30	3 17	9 29a	3 19b	4.7	6.4	2.7	5.1	0.3	0.7	.....	0.8	3.2	2.6	18.0
18	11 05	4 52	11 04a	4 54b	4.8	6.5	2.8	5.2	0.3	0.7	.....	0.8	3.2	2.7	22.0
19	0 20	6 32	0 19b	6 34b	4.7	6.4	2.7	5.1	0.3	0.7	.....	0.8	3.2	2.6	22.5
20	8 50	2 37	8 49a	2 39b	6.8	9.3	3.9	7.2	0.3	0.7	.....	0.8	4.6	3.5	22.5
21	5 50	12 02	5 48a	12 04a	2.9	4.0	1.7	3.3	0.2	0.6	.....	0.7	2.0	3.7	22.0
22	0 10	6 22	0 15b	6 21b	12.3	15.7	8.4	13.5	0.3	0.9	.....	1.0	7.8	6.9	14.0
23	0 07	6 33	0 12b	6 32b	12.6	16.1	8.5	13.8	0.3	1.0	5 43	1.0	8.0	7.1	14.0
24	0 05	6 17	0 11b	6 15b	9.8	12.5	6.7	10.9	0.3	0.8	.....	1.0	6.2	5.6	14.0
25	4 15	10 27	4 21b	10 26b	11.5	14.8	7.8	12.6	0.3	0.8	.....	1.0	7.4	6.4	13.5
26	3 15	9 27	3 20b	9 26b	12.7	16.3	8.6	13.9	0.3	0.9	.....	1.0	8.2	7.1	13.5
27	0 57	7 30	1 49b	8 24a	12.5	14.5	9.7	13.2	0.6	0.8	.....	1.0	7.4	6.7	13.5
28	1 25	7 56	2 22b	8 43a	13.3	15.5	10.8	14.1	0.6	0.8	.....	1.0	7.7	7.5	13.5
29	2 14	8 35	3 10b	9 28a	14.1	16.1	12.7	14.9	0.7	0.8	.....	1.1	8.0	7.9	13.5
30	2 43	8 27	3 35b	9 11a	11.0	12.4	9.3	12.0	1.1	1.0	.....	1.4	6.2	6.0	13.5
31	2 19	8 07	3 10b	8 46a	9.5	10.8	8.1	10.5	1.0	0.9	.....	1.4	5.4	5.2	13.5
32	1 58	7 50	2 40b	8 26a	8.1	9.2	6.8	9.0	1.0	0.8	.....	1.3	4.6	4.4	13.5
33	2 43	9 49	3 36b	10 42a	6.1	6.8	5.4	6.9	1.0	0.5	.....	1.1	3.4	3.3	13.5
34	3 40	10 52	4 35b	12 08a	7.0	7.7	6.2	7.7	1.0	0.5	.....	1.1	3.8	3.8	13.5
35	5 04	0 22	6 01b	1 08b	5.8	6.2	5.4	6.4	0.8	0.5	.....	0.9	3.2	3.1	13.0
36	5 49	2 09	6 37b	2 52b	3.1	3.4	2.7	3.6	0.8	0.3	.....	0.8	1.7	1.7	13.0
37	3 59	11 41	5 00b	12 33a	5.0	5.4	4.6	5.7	1.0	0.4	.....	1.1	2.7	2.7	13.5
38	2 00	9 09	2 44b	10 42a	5.5	6.2	4.7	6.2	1.0	0.4	18 01	1.1	3.1	3.0	13.5
39	2 51	10 49	3 33b	11 28a	5.5	6.4	4.5	6.1	0.8	0.3	18 17	0.9	3.2	2.9	13.5
40	5 28	0 41	7 01b	1 32a	3.8	4.3	2.7	4.5	0.9	0.5	18 53	1.0	2.2	2.1	18.5
41	8 28	2 21	9 20b	3 23a	5.4	6.2	4.4	6.1	0.7	0.7	.....	1.0	3.1	3.0	13.5
42	9 07	3 46	9 56b	4 54a	4.2	4.8	3.5	4.6	0.7	0.3	.....	0.7	2.4	2.3	13.0
43	0 37	6 56	1 06b	7 52a	1.1	1.2	0.9	1.4	0.3	0.4	.....	0.5	0.6	0.7	13.0
44	8 30	2 20	9 52b	3 15a	4.6	5.2	3.9	5.3	0.8	0.6	.....	1.0	2.6	2.5	13.0
45	9 10	3 00	10 30b	3 55a	4.8	5.4	4.1	5.5	0.9	0.5	.....	1.1	2.7	2.6	13.0
46	9 30	3 20	10 50b	4 15a	4.4	5.0	3.7	5.1	0.7	0.4	.....	1.1	2.5	2.4	13.0
47	11 19	5 22	12 10b	6 12a	9.4	10.7	8.0	10.3	0.7	1.0	.....	1.2	5.3	5.2	12.5
48	0 24	6 36	0 19a	6 44a	7.0	8.9	5.0	7.3	0.9	0.5	.....	1.0	4.4	3.6	12.0
49	10 20	4 08	10 14b	4 17a	5.4	6.8	3.8	5.7	0.7	0.5	.....	0.9	3.4	2.8	12.5
50	11 06	4 53	10 59b	5 02a	5.8	7.3	4.1	6.1	0.8	0.5	.....	0.9	3.6	3.0	12.0
51	11 27	5 15	11 21b	5 24a	6.3	8.0	4.5	6.6	0.8	0.5	.....	1.0	4.0	3.2	12.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.		Standard port for reference.		Tidal differences.				Ratio of range.	
		Latitude.	Longitude.		Name.	Page.	Time.		Height.		
			Arc.	Time.			HW.	LW.	HW.		LW.
EUROPE (WEST COAST)—Cont'd.											
GERMANY—continued.											
North Sea—Continued.											
		North.	East.				Time meridian, 15° East.		Mean Low Water Springs.		
		° /	° /	h. m.			h. m.	h. m.	feet.	feet.	
1	Hooksiel, Jade River.....	53 38	8 02	0 32	Hamburg.....	329	- 5 03	- 6 20	+3.4	+1.1	
2	Wilhelmshaven, Jade River.....	53 31	8 09	0 33	Hamburg.....	329	- 4 26	- 5 45	+6.2	+1.3	
3	Red Sand Light.....	53 51	8 05	0 32	Hamburg.....	329	- 5 27	- 6 20	+3.8	+1.0	
4	Hohe Weg Light, Weser River.....	53 43	8 15	0 33	Hamburg.....	329	- 4 04	- 5 21	+4.5	+1.1	
5	Bremerhaven, Weser River.....	53 33	8 34	0 34	Hamburg.....	329	- 3 58	- 4 49	+5.6	+1.2	
6	Braake, Weser River.....	53 20	8 29	0 34	Hamburg.....	329	- 1 50	- 3 07	+4.7	+1.1	
7	Elsfleth, Weser River.....	53 14	8 28	0 34	Hamburg.....	329	- 1 30	- 2 47	+2.9	+0.2	
8	Vegesack, Weser River.....	53 11	8 37	0 34	Hamburg.....	329	- 0 50	- 2 07	-0.8	+0.5	
9	Helgoland Island.....	54 11	7 53	0 32	Hamburg.....	329	- 5 29	- 6 22	+1.0	+0.4	
10	Elbe R. E., outer light vessel No. 1.....	54 00	8 15	0 33	Hamburg.....	329	- 4 24	- 5 41	+2.0	+0.8	
11	Cuxhaven, Elbe River.....	53 52	8 42	0 35	Hamburg.....	329	- 3 52	- 5 10	+2.8	+0.9	
12	Brunsbüttel, Elbe River.....	53 53	9 06	0 36	Hamburg.....	329	- 2 49	- 4 07	+2.3	+0.9	
13	Glückstadt, Elbe River.....	53 47	9 24	0 38	Hamburg.....	329	- 1 52	- 3 10	+2.7	+0.9	
14	Brunshausen, Elbe River.....	53 37	9 31	0 38	Hamburg.....	329	- 0 53	- 2 11	+1.8	+0.8	
15	Lühe, Elbe River.....	53 35	9 38	0 39	Hamburg.....	329	- 0 35	- 1 52	+1.3	+0.7	
16	HAMBURG, Elbe River.....	53 33	9 59	0 40	Hamburg.....	329	0 00	0 00	0.0	0.0	
17	Büsum.....	54 08	8 52	0 35	Hamburg.....	329	- 3 20	- 4 37	+4.2	+1.0	
18	Eider River Entr., light vessel.....	54 16	8 19	0 33	Hamburg.....	329	- 5 04	- 6 21	+2.4	+0.9	
19	Tönning, Eider River.....	54 19	8 57	0 36	Hamburg.....	329	- 2 47	- 4 05	+3.7	+1.0	
20	Husum.....	54 29	9 01	0 36	Hamburg.....	329	- 2 22	- 3 39	+3.4	+1.0	
21	Pellworm Island.....	54 31	8 41	0 35	Hamburg.....	329	- 2 51	- 4 09	+2.4	+0.8	
22	Wyk, Föhr Island.....	54 41	8 34	0 34	Hamburg.....	329	- 2 55	- 4 13	+0.7	+0.7	
23	Amrum Island.....	54 38	8 23	0 34	Hamburg.....	329	- 4 00	- 5 18	+1.6	+0.8	
24	Lister-deep, Fairway buoy.....	55 05	8 27	0 34	Cape Town.....	269	- 0 47	- 0 45	-0.6	0.0	
DENMARK.											
North Sea.											
25	Sønderho, Fanø Island.....	55 20	8 28	0 34	Cape Town.....	269	+ 1 05	+ 1 06	+0.6	0.0	
26	Nordby.....	55 27	8 25	0 34	Cape Town.....	269	+ 1 27	+ 1 27	+0.2	0.0	
27	Hjerting.....	55 31	8 21	0 33	Cape Town.....	269	+ 1 29	+ 1 30	0.0	-0.2	
28	Blaavand Point.....	55 33	8 05	0 32	Cape Town.....	269	+ 0 25	+ 0 26	+0.4	0.0	
29	Horn Reefs.....	55 34	7 19	0 29	Cape Town.....	269	+ 1 37	+ 1 35	+0.2	0.0	
30	Nymindegab.....	55 48	8 11	0 33	Apia.....	217	- 3 47	- 3 47	-1.0	-0.2	
31	Thybø Ron.....	56 43	8 14	0 33	Apia.....	217	- 2 22	- 2 22	-1.3	-0.1	
32	Hirtshals.....	57 35	9 57	0 40	Apia.....	217	- 2 11	- 2 11	-1.8	-0.2	
33	Skagen or the Skaw.....	57 44	10 38	0 43	Galveston.....	129	-12 08	-10 56	-0.4	+0.2	
34	Copenhagen, Baltic Sea.....	55 42	12 36	0 50	Galveston.....	129	+ 4 33	+ 5 16	-0.8	+0.2	
NORWAY.											
35	Frederickstad.....	59 13	10 57	0 44	Astoria.....	157	- 7 31	- 8 20	-6.0	-1.2	
36	Oscarsborg.....	59 40	10 37	0 42	Astoria.....	157	- 7 01	- 8 11	-6.6	-1.4	
37	Christiania.....	59 55	10 44	0 43	Astoria.....	157	- 7 34	- 8 14	-6.6	-1.2	
38	Frederiksvaern.....	59 01	10 05	0 40	Astoria.....	157	- 7 53	- 8 54	-6.6	-1.2	
39	Oster-Risør.....	58 43	9 15	0 37	Astoria.....	157	- 8 22	- 9 17	-6.6	-1.2	
40	Arendal.....	58 27	8 46	0 35	Astoria.....	157	- 9 06	- 9 29	-6.8	-1.2	
41	Christiansand.....	58 08	8 00	0 32	Cape Town.....	269	+ 3 11	+ 2 59	-3.0	-0.4	
42	Tananger.....	58 55	5 31	0 22	Cape Town.....	269	- 3 43	- 3 40	-2.6	-0.4	
43	Stavanger.....	58 59	5 44	0 23	Cape Town.....	269	- 3 43	- 3 43	-2.4	-0.2	
44	Skudesnaes.....	59 08	5 18	0 21	Cape Town.....	269	- 3 05	- 3 04	-2.2	-0.4	
45	Bergen.....	60 24	5 18	0 21	Cape Town.....	269	- 3 02	- 3 09	-0.4	-0.2	
46	Romsdals Islands.....	62 45	6 00	0 24	Hamburg.....	329	+ 6 16	+ 4 59	-1.3	+0.6	
47	Christiansund.....	63 08	8 00	0 32	Hamburg.....	329	+ 6 32	+ 5 15	-1.0	+0.6	
48	Trondhjem or Munkholm.....	63 27	10 24	0 42	Hamburg.....	329	+ 6 40	+ 5 21	+1.1	+0.9	
49	Traen Islands.....	66 31	12 02	0 48	Hamburg.....	329	+ 6 51	+ 5 34	-0.3	+0.7	
50	Vaero, Lofoten Islands.....	67 38	12 37	0 50	Hamburg.....	329	+ 7 04	+ 5 46	+1.5	+1.0	
51	Andenaes, Lofoten Islands.....	69 12	16 11	1 05	Hamburg.....	329	- 4 20	- 5 37	0.0	+0.6	
52	Tromsøe.....	69 40	19 00	1 16	Hamburg.....	329	- 3 38	- 4 55	+0.7	+0.7	
53	Hammerfest.....	70 40	23 40	1 35	Hamburg.....	329	- 3 18	- 4 23	+1.2	+0.8	
54	Vardøe.....	70 20	31 06	2 04	Hamburg.....	329	- 0 25	- 1 36	+1.8	+0.3	
RUSSIA.											
Local time.											
55	Petshenga Bay.....	69 38	31 24	2 06	Hamburg.....	329	+ 1 44	+ 0 41	+0.2	+0.6	
56	Kola.....	68 49	33 00	2 12	Hamburg.....	329	+ 2 05	+ 1 01	-0.2	+0.6	
57	Terberskoi Bay.....	69 07	35 09	2 21	Hamburg.....	329	+ 2 11	+ 0 56	+5.1	+1.2	
58	Sem or Seven Islands.....	68 49	37 22	2 29	Hamburg.....	329	+ 3 10	+ 1 55	+4.1	+1.1	
59	Sviatoi Noss.....	68 09	39 49	2 39	Hamburg.....	329	+ 4 05	+ 2 50	+6.3	+1.4	

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Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>West.</i> °
1	11 50	5 38	11 45a	5 45a	8.5	10.7	6.0	8.8	0.9	0.6	.....	1.1	5.4	4.3	12.0
2	0 03	6 14	0 00a	6 19a	11.1	13.8	8.0	11.1	0.9	0.5	22 36	1.1	6.9	5.5	12.0
3	11 26	5 88	11 20a	5 43a	9.0	11.2	6.5	9.0	0.9	0.6	.....	1.1	5.6	4.5	12.0
4	0 25	6 88	0 19a	6 47a	9.6	11.9	6.9	9.8	0.9	0.6	.....	1.1	6.0	4.9	11.5
5	0 32	7 11	0 29a	7 16a	10.6	13.1	7.6	11.0	0.9	0.6	.....	1.1	6.6	5.5	11.5
6	2 40	8 53	2 36a	9 00a	9.8	12.2	7.1	10.2	0.9	0.5	.....	1.0	6.1	5.1	11.5
7	3 00	9 18	2 56a	9 21a	8.2	10.2	5.9	8.6	0.8	0.4	.....	0.9	5.1	4.3	11.5
8	3 40	9 53	3 35a	10 02a	4.9	6.1	3.5	5.2	0.6	0.3	.....	0.7	3.0	2.6	11.5
9	11 24	5 36	11 21b	5 43a	6.8	7.7	5.6	7.3	0.9	0.5	21 51	0.9	3.9	3.6	12.0
10	0 05	6 18	0 01a	6 25a	7.4	9.2	5.8	8.1	0.9	0.5	.....	1.0	4.6	4.0	12.0
11	0 39	6 51	0 36a	6 57a	8.1	10.1	5.8	8.8	0.9	0.5	.....	1.0	5.0	4.3	11.5
12	1 43	7 55	1 39a	8 02a	7.6	9.5	5.5	8.3	0.9	0.5	.....	1.0	4.8	4.1	11.5
13	2 42	8 54	2 39a	9 00a	8.0	10.0	5.8	8.7	0.9	0.5	.....	1.0	5.0	4.3	11.0
14	3 41	9 53	3 37a	10 00a	7.2	9.0	5.2	7.9	0.9	0.5	.....	1.0	4.5	3.9	11.0
15	4 00	10 13	3 56a	10 20a	6.8	8.5	4.9	7.5	0.8	0.5	.....	0.9	4.2	3.7	11.0
16	4 36	12 06	4 38a	12 18a	6.2	6.5	5.7	6.5	1.2	0.2	5 28	1.2	3.2	3.0	11.0
17	1 11	7 24	1 08a	7 30a	9.4	11.7	6.8	10.2	1.0	0.5	.....	1.1	5.8	5.0	11.5
18	11 50	5 88	11 46a	5 45a	7.7	9.6	5.5	8.4	0.9	0.5	.....	1.0	4.8	4.1	11.5
19	1 45	7 57	1 42a	8 03a	8.9	11.0	6.4	9.7	1.0	0.5	.....	1.1	5.5	4.7	11.5
20	2 10	8 23	2 06a	8 30a	8.6	10.8	6.2	9.3	0.9	0.5	.....	1.1	5.4	4.6	11.5
21	1 40	7 52	1 36a	7 59a	7.8	9.7	5.6	8.5	0.9	0.5	.....	1.0	4.8	4.2	11.5
22	1 35	7 47	1 31a	7 55a	6.2	7.8	4.5	6.8	0.8	0.4	.....	0.9	3.9	3.3	11.5
23	0 80	6 42	0 26a	6 49a	7.0	8.8	5.0	7.7	0.9	0.5	.....	1.0	4.4	3.8	11.5
24	0 20	6 33	0 15a	6 42a	4.2	5.2	3.0	4.7	0.7	0.3	.....	0.7	2.6	2.3	12.0
25	2 12	8 24	2 07a	8 38a	4.2	5.3	3.0	4.7	0.7	0.3	.....	0.7	2.6	2.3	12.0
26	2 34	8 46	2 29a	8 55a	3.8	4.7	2.7	4.3	0.6	0.3	.....	0.7	2.4	2.1	12.0

TABLE 3.—TIDAL DIFFERENCES

Number.	Station.	Geographic position.				Standard port for reference.		Tidal differences.				Ratio of range.
		Latitude.	Longitude.			Name.	Page.	Time.		Height.		
			Arc.	Time.				H.W.	L.W.	H.W.	L.W.	
EUROPE (WEST COAST)—Cont'd.												
RUSSIA—continued.												
White Sea.												
		North.	East.					Local time.		Mean Low Water Springs.		
		° ' "	° ' "	h. m.				h. m.	h. m.	feet.	feet.	
1	Cape Orlov	67 11	41 22	2 45	Brest	281	-5 44	-5 56	+ 0.4	-0.4	1.0	
2	Morjovets Island	66 46	42 30	2 50	Brest	281	-5 12	-5 24	- 2.0	-0.8	0.9	
3	Mezen	65 48	44 20	2 57	Brest	281	-2 20	-2 13	- 1.0	-0.6	0.6	
4	Sosnovets Island	66 29	40 43	2 43	Brest	281	-4 48	-4 57	- 1.2	-0.8	0.6	
5	Tetrina	66 02	38 21	2 33	Cape Town	269	+1 30	+1 35	+ 1.8	0.0	1.8	
6	Kandalaksha	67 08	32 28	2 10	Cape Town	269	+1 39	+2 03	+ 2.0	+0.2	1.8	
7	Ilginsk Island	65 12	36 49	2 27	Cape Town	269	+3 29	+3 43	- 0.6	-0.2	0.8	
8	Onega	63 57	38 07	2 32	Cape Town	269	-5 00	-4 38	+ 4.2	+0.4	2.1	
9	Karetski Nos	65 38	39 40	2 39	Cape Town	269	+2 43	+2 57	+ 0.6	0.0	1.8	
10	Archangel, Dwina River	64 36	40 41	2 43	Apla	217	+0 23	+1 18	- 0.9	-0.1	1.2	
SPITZBERGEN.												
11	Danes Island	79 41	11 02	0 44	Cape Town	269	-1 19	-1 19	+ 0.6	0.0	1.1	
12	Recherche Bay	77 30	14 44	0 59	Cape Town	269	-0 37	-0 36	+ 1.9	+0.1	1.6	
FRANZ JOSEF LAND.												
13	Cape Flora	79 57	49 59	3 20	Melbourne	233	-4 58	-5 04	- 0.8	-0.1	0.7	
14	Teplitz Bay	81 47	57 59	3 50	Sitka	165	-6 45	-6 46	- 8.0	-1.4	0.8	
NOVA ZEMBLA.												
15	Cape Costin	70 58	53 10	3 33	Cape Town	269	+8 21	+8 25	+ 2.2	+0.2	1.8	
16	Matoshkin Shar, west entrance	73 17	54 21	3 37	Cape Town	269	+7 51	+7 55	+ 2.6	+0.2	1.7	
17	Mashigin Bay	74 43	56 12	3 45	Cape Town	269	+9 21	+9 25	+ 2.4	+0.2	1.7	

Number.	Interval.				Range of tide.				Tropic diurnal inequality.		Diurnal wave.		Mean sea level above plane of—		Variation of the compass.
	Mean.		Tropic.		Mean (Mn).	Spring (Sg).	Neap (Np).	Great tropic (Gc).	HWQ.	LWQ.	Tropic HW interval.	Tropic range.	Predictions.	Tropic LLW.	
	HWI.	LWI.	HHWI.	LLWI.											
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>h. m.</i>	<i>feet.</i>	<i>feet.</i>	<i>feet.</i>	<i>East.</i> °
1	10 38	4 26	10 38b	4 26a	15.6	19.5	11.1	16.5	1.2	0.6	.....	1.3	9.8	7.8	9.5
2	11 10	4 58	11 10b	4 58a	13.5	16.8	9.6	14.2	1.1	0.5	.....	1.2	8.4	6.8	10.0
3	1 38	8 10	1 38a	8 10a	14.4	18.0	10.2	15.2	1.1	0.6	.....	1.3	9.0	7.2	10.5
4	11 34	5 25	11 34b	5 25a	14.2	17.7	10.1	15.0	1.1	0.6	.....	1.3	8.8	7.1	9.0
5	3 07	9 23	3 07a	9 23a	5.2	6.5	3.7	5.7	0.7	0.3	.....	0.8	3.2	2.6	7.5
6	3 15	9 50	3 15a	9 50a	5.4	6.7	3.8	5.9	0.7	0.3	.....	0.8	3.4	2.7	3.5
7	5 05	11 30	5 05a	11 30a	3.0	3.8	2.1	3.4	0.5	0.3	.....	0.6	1.9	1.5	6.0
8	9 02	3 10	9 02a	3 10b	7.3	9.1	5.2	7.9	0.8	0.4	.....	0.9	4.6	3.6	6.5
9	4 20	10 45	4 20a	10 45a	4.2	5.3	3.0	4.6	0.6	0.3	.....	0.7	2.6	2.1	8.0
10	7 18	2 00	7 18a	2 00b	1.8	2.2	1.3	2.1	0.4	0.2	.....	0.4	1.1	0.9	8.0
															<i>West.</i>
11	0 14	6 25	0 14b	6 25b	4.2	5.3	3.0	4.6	0.6	0.3	.....	0.7	2.6	2.1	14.0
12	0 56	7 08	0 56b	7 08b	5.3	6.6	3.8	5.8	0.7	0.3	.....	0.8	3.3	2.6	10.0
															<i>East.</i>
13	9 44	3 37	10 19b	3 22b	1.0	1.2	0.6	1.3	0.1	0.6	2 40	0.6	0.6	0.7	15.0
14	6 14	12 24	5 59a	12 33a	1.1	1.5	0.6	1.3	0.2	0.2	2 35	0.3	0.7	0.6	23.0
15	10 00	3 50	10 00b	3 50a	5.6	7.0	4.0	6.2	0.7	0.4	.....	0.8	3.5	2.8	17.0
16	9 30	3 20	9 30b	3 20a	5.9	7.4	4.2	6.5	0.7	0.4	.....	0.8	3.7	2.9	17.0
17	11 00	4 50	11 00b	4 50a	5.8	7.3	4.1	6.4	0.7	0.4	.....	0.8	3.6	2.9	18.5

TABLE 4.—HARMONIC CONSTANTS FOR THE PORTS

No.	Station.	K_1 K_1°	K_2 K_2°	L_2 L_2°	M_1 M_1°	M_2 M_2°	M_3 M_3°	M_4 M_4°	N_2 N_2°	σ σ°
1	St. Johns, Newfoundland.....	0.248 108	0.120 259	0.020 211	.....	1.172 209.6	0.020 48	0.020 344	0.232 195	0.23 7
2	Halifax (Navy-Yard), Nova Scotia.....	0.338 60	0.136 257	0.109 258	0.012 57	2.085 223.5	0.116 25	0.014 72	0.453 206	0.15 5
3	St. John, New Brunswick.....	0.499 128	0.482 5	0.560 4	0.027 146	9.897 325.2	0.119 146	0.092 173	2.072 256	0.26 10
4	Portland (Central Wharf), Me.....	0.471 131	0.225 358	0.248 20	.....	4.336 323.6	0.034 75	0.042 71	0.957 292	0.34 14
5	Boston (Navy-Yard), Mass.....	0.443 141	0.182 16	0.303 4	0.030 121	4.439 335.4	0.056 164	0.189 262	1.017 304	0.24 10
6	Newport (Fort Adams), R. I.....	0.209 96	0.098 239	0.016 210	0.008 70	1.661 217.5	0.179 120	0.011 127	0.365 200	0.14 6
7	New London (Custom-House Wharf), Conn.....	0.245 112	0.066 284	0.052 342	0.003 303	1.140 274.8	0.066 65	0.040 139	0.262 248	0.13 6
8	Willels Point (U. S. Engineer School), N. Y.....	0.339 119	0.146 359	0.300 3	0.020 166	3.649 328.6	0.096 211	0.210 84	0.744 304	0.18 8
9	New York (Governors Island), N. Y.....	0.325 106	0.118 256	0.129 249	0.016 104	2.153 231.1	0.087 332	0.076 89	0.496 211	0.16 7
10	Sandy Hook (The Horseshoe), N. J.....	0.333 102	0.128 243	0.110 203	0.016 119	2.219 217.6	0.026 336	0.064 353	0.503 201	0.17 8
11	Philadelphia (Chestnut Street Pier), Pa.....	0.316 218	0.091 78	0.210 61	0.025 329	2.366 48.6	0.368 7	0.112 206	0.338 28	0.25 10
12	Baltimore (Fells Point), Md.....	0.129 299	0.034 242	0.032 249	0.024 170	0.572 190.2	0.011 329	0.006 185	0.092 163	0.12 5
13	Washington (Seventh street), D. C.....	0.152 272	0.074 268	0.117 251	0.020 346	1.373 228.9	0.074 358	0.030 54	0.241 205	0.11 5
14	Old Point Comfort (Fort Monroe), Va.....	0.186 119	0.062 277	0.064 270	.....	1.220 248.4	0.039 244	0.016 191	0.269 226	0.13 6
15	Wilmington (Cape Fear River), N. C.....	0.250 130	0.028 344	0.083 296	.....	1.152 292.1	0.183 149	0.026 278	0.175 288	0.15 7
16	Charleston (Custom-House Wharf), S. C.....	0.639 122	0.105 241	0.135 222	.....	2.483 213.6	0.090 242	0.025 311	0.559 196	0.24 10
17	Savannah Entrance (Tybee Light), Ga.....	0.341 114	0.154 246	0.185 198	.....	3.219 209.5	0.058 287	0.021 286	0.677 190	0.25 11
18	Fernandina (Dade street), Fla.....	0.346 127	0.138 267	0.146 222	0.013 137	2.854 228.3	0.032 296	0.082 8	0.585 213	0.25 11
19	Key West (Fort Taylor), Fla.....	0.274 274	0.049 281	0.023 276	.....	0.565 260.3	0.036 235	0.011 180	0.123 232	0.24 10
20	Galveston (Dowell's Wharf), Tex.....	0.346 321	0.018 132	0.014 174	.....	0.224 124.5	0.002 128	0.004 29	0.058 111	0.33 14
21	Buenos Ayres, Argentina.....	0.253 18	0.014 344	0.048 220	.....	0.314 184.7	0.073 90	0.018 292	0.341 149	0.44 19
22	Cape Horn (Orange Bay), Chile.....	0.707 36	0.064 128	0.062 109	0.020 350	1.931 104.2	0.016 197	0.017 313	0.491 318	0.36 16
23	Valparaiso, Chile.....	0.499 330	0.142 288	0.041 229	0.021 287	1.060 279.2	0.007 147	0.004 107	0.359 248	0.23 10
24	Panama (Nao's Island), Panama.....	0.440 340	0.392 142	0.226 167	.....	5.928 86.7	0.218 358	0.041 276	1.297 54	0.13 6
25	San Diego (La Playa), Cal.....	1.073 95	0.207 266	0.046 245	0.039 97	1.701 276.6	0.026 186	0.010 112	0.408 257	0.67 29
26	San Francisco (Fort Point), Cal.....	1.218 106	0.116 327	0.073 0	0.044 83	1.696 330.7	0.066 32	0.012 342	0.363 304	0.76 32
27	Astoria (Columbia River), Oreg.....	1.316 129	0.220 24	0.157 11	0.062 152	2.971 8.6	0.100 317	0.034 106	0.566 346	0.74 32
28	Port Townsend (Pugej Sound), Wash.....	2.511 148	0.157 131	0.104 151	0.108 162	2.217 105.6	0.131 290	0.033 238	0.471 75	1.44 17
29	Sitka, Alaska.....	1.504 125	0.320 22	0.109 28	0.029 150	3.591 2.8	0.013 140	0.002 94	0.758 335	0.96 42
30	Kodiak (St. Paul Harbor, Kodiak I.), Alaska.....	1.330 139	0.301 39	0.106 358	0.060 150	3.228 7.7	0.038 97	0.032 239	0.676 342	0.85 42
31	St. Michael (Norton Sound), Alaska.....	1.354 297	0.033 338	0.026 292	0.076 272	0.554 235.4	0.042 150	0.018 266	0.179 178	0.76 32
32	Yokohama (Nishihatoba), Japan.....	0.802 179	0.187 178	0.027 133	.....	1.566 154.3	0.048 98	0.012 109	0.236 146	0.67 32
33	Nagasaki, Japan.....	0.788 193	0.344 259	0.079 243	.....	2.337 228.9	.....	.....	0.550 213	0.63 28
34	Tientsin Entrance (Taku Light Ship), China.....	1.330 157	0.145 162	0.026 114	.....	3.474 94.4	0.281 99	.....	0.184 74	0.94 42
35	Shanghai (Wusung Inner Bar), China.....	0.656 207	0.281 77	0.058 59	.....	3.109 30.3	0.700 .....	.....	0.401 331	0.62 28
36	Amoy (Inner Harbor), China.....	0.868 274	0.364 61	0.111 30	.....	6.125 1.2	0.042 92	.....	0.776 332	0.63 28

No.	P ₁ P ₁ °	Q ₁ Q ₁ °	S ₂ S ₂ °	T ₂ T ₂ °	λ ₂ λ ₂ °	μ ₂ μ ₂ °	ν ₂ ν ₂ °	MS ₁ MS ₁ °	Sa Sa°	Ssa Ssa°	Length of series analyzed.
1	0.083 86	0.045 61	0.480 254				0.046 197		0.200 268	0.071 217	Hourly Ordinates for 236 days beginning May 10, 1880.*
2	0.102 63	0.019 51	0.454 258			0.062 196	0.154 200	0.060 154	0.150 252	0.158 146	Hourly Ordinates for 5 years, 1851, 1852, 1860, 1861, and 1895-96.†
3	0.158 129	0.062 98	1.633 4			0.091 85	0.461 310	0.047 179	0.115 93	0.160 125	Hourly Ordinates for 8 years beginning April 30, 1894.†
4	0.138 132	0.065 83	0.684 0	0.040 0		0.021 208	0.215 302		0.200 178	0.016 181	Hourly Ordinates for 1 year beginning Aug. 1, 1864.*
5	0.148 137	0.057 125	0.707 14	0.042 14		0.025 340	0.211 306		0.094 116	0.081 99	Hourly Ordinates for 1 calendar year, 1869.*
6	0.069 115	0.047 116	0.384 237	0.023 237	0.012 233	0.078 199	0.060 204		0.144 153	0.067 145	Hourly Ordinates for 1 year beginning Apr. 1, 1892.*
7	0.078 114		0.214 288				0.045 263		0.241 153	0.120 90	Hourly Ordinates for 2 years, beginning Nov. 1, 1882, and May 12, 1899.*
8	0.091 134		0.644 332			0.088 306	0.112 312		0.153 110	0.113 111	Hourly Ordinates for 2 years, beginning July 1, 1891, and Jan. 1, 1894.*
9	0.105 104	0.081 103	0.413 287	0.073 183	0.025 186	0.063 217	0.093 241		0.245 127	0.173 47	Hourly Ordinates for 3 calendar years, 1876, 1877, and 1878.*
10	0.105 105	0.082 110	0.426 246			0.068 226	0.096 199		0.254 143	0.101 58	Hourly Ordinates for 8 calendar years, 1876 to 1881, 1887, and 1888.*
11	0.098 209		0.315 88	0.019 88		0.120 171	0.147 22	0.099 56	0.417 146	0.342 325	Hourly Ordinates for 2 calendar years, 1901 and 1902.*
12	0.061 314		0.075 225						0.501 129	0.080 56	Hourly Ordinates interpolated from High and Low Waters for 1 year beginning May 12, 1845.*
13	0.067 273	0.024 301	0.201 272	0.012 272			0.052 226		0.272 128	0.194 163	Hourly Ordinates for 1 calendar year 1899.*
14	0.064 114	0.044 130	0.227 269				0.054 228		0.320 126	0.106 161	Hourly Ordinates for 2 calendar years, 1865 and 1877.*
15	0.083 132	0.037 204	0.099 344				0.034 288	0.083 201	0.302 173	0.027 94	Hourly Ordinates from 7 a. m. to 6 p. m. for 2 calendar years, 1887 and 1890.*
16	0.111 120	0.048 127	0.433 240				0.110 198		0.288 186	0.165 84	Hourly Ordinates for 1 calendar year, 1859.*
17	0.118 114	0.060 122	0.586 235				0.118 200		0.217 124	0.103 25	Hourly Ordinates for 1 year beginning Oct. 6, 1889.*
18	0.110 125	0.055 133	0.509 258			0.082 273	0.117 210		0.406 186	0.308 207	Hourly Ordinates for 1 year beginning Jan. 1, 1899.*
19	0.091 273	0.068 271	0.172 280				0.024 235		0.377 216	0.075 86	Hourly Ordinates for 1 year beginning May 1, 1867.*
20	0.129 319	0.066 341	0.043 134				0.010 113		0.528 170	0.332 44	Hourly Ordinates for 1 calendar year, 1852.*
21	0.123 20	0.085 124	0.167 266				0.067 152		0.389 321	0.166 336	Hourly Ordinates interpolated from High and Low Waters for 1 calendar year, 1893.*
22	0.175 30	0.114 323	0.302 134	0.085 260	0.014 118	0.046 74	0.095 71		0.156 92	0.013 87	Hourly Ordinates for 1 year beginning Sept. 1, 1882.*
23	0.161 322	0.064 264	0.466 300			0.034 259	0.069 252		0.151 351	0.091 228	Hourly Ordinates for 1 year beginning Feb. 1, 1892.*
24	0.123 342	0.082 36	1.656 144		0.033 281	0.185 33	0.151 59		0.600 172	0.296 136	Hourly Ordinates for 1 calendar year, 1882.*
25	0.360 94	0.135 71	0.697 275	0.041 275	0.024 282	0.025 245	0.079 260	0.021 184	0.231 189	0.114 280	Hourly Ordinates for 3 calendar years, 1869-1871.*
26	0.368 104	0.124 83	0.382 335	0.023 335			0.070 307	0.039 37	0.398 156	0.184 221	Hourly Ordinates for 4 calendar years, 1863, 1864, 1865, and 1870.*
27	0.374 126	0.129 111	0.767 39	0.045 39	0.050 14	0.022 129	0.170 822	0.054 340	0.244 284	0.267 151	Hourly Ordinates for 2 calendar years, 1874 and 1875.*
28	0.800 147	0.237 119	0.546 130	0.032 130	0.032 166	0.081 353	0.094 84	0.067 313	0.270 288	0.131 225	Hourly Ordinates for 3 calendar years, 1874-1876.*
29	0.450 124	0.157 98	1.145 34	0.068 34		0.085 321	0.142 343		0.261 284	0.055 336	Hourly Ordinates for 1 year beginning June 27, 1893.*
30	0.444 134	0.161 112	1.077 41	0.064 41		0.067 322	0.123 350		0.335 196	0.176 112	Hourly Ordinates for 1 year beginning Sept. 1, 1885.*
31	0.448 297	0.150 228	0.121 333	0.007 338			0.035 186				Hourly Ordinates for 58 days in 1891, 29 days in 1898, and 58 days in 1899.*
32	0.298 175	0.127 142	0.731 185				0.046 146		0.341 190	0.100 118	Hourly Ordinates for 1 calendar year, 1893.*
33	0.263 193	0.121 178	1.173 259			0.068 199	0.108 215				Hourly Ordinates for 3 months, Mar., Apr., and May, 1891.†
34	0.440 155	0.184 110	0.532 157	0.031 154			0.036 77	0.086 161			High and Low Waters for 2 months, Sept. and Oct., 1888.*
35	0.217 207	0.090 120	1.032 77	0.061 76			0.078 6	0.465 18	1.518 128	0.478 73	High and Low Waters for 1 calendar year, 1893.*
36	0.287 272	0.124 241	1.333 57	0.079 56			0.151 336				High and Low Waters for 2 months, Jan. and Feb., 1892.*

TABLE 4.—HARMONIC CONSTANTS FOR THE PORTS

No.	Station.	K_1 K_1°	K_2 K_2°	L_2 L_2°	M_1 M_1°	M_2 M_2°	M_3 M_3°	M_4 M_4°	N_2 N_2°	O_1 O_1°
37	Hongkong, China.....	1.190 296	0.147 280	0.033 274	0.060 100	1.438 266.5	0.076 322	0.014 140	0.290 255	0.96 29
38	Singapore, Malay Peninsula.....	0.949 100	0.318 345	0.197 310	.....	2.602 300.0	0.053 264	0.035 43	0.452 272	0.88 12
39	Batavia (Tanjong Priok), Java.....	0.867 143	0.073 268	0.027 110	0.046 188	0.174 350	.....	.....	0.069 314	0.77 12
40	Manila (Pasig River Entr.), Philippine Islands.....	0.974 320	0.069 325	0.019 320	0.026 306	0.665 805.1	0.018 352	0.006 285	0.126 291	0.65 15
41	Honolulu (Oahu Island), Hawaiian Islands.....	0.475 72	0.043 97	0.015 102	.....	0.523 109.4	0.001 28	0.002 69	0.086 98	0.39 6
42	Apia (Upolu Island), Samoan Islands.....	0.093 254	0.081 181	0.076 139	.....	1.255 186.0	.....	.....	0.306 166	0.77 29
43	Wellington, New Zealand.....	0.085 81	0.060 339	0.034 71	0.007 106	1.598 137	0.045 332	0.015 135	0.353 104	0.69 26
44	Auckland, New Zealand.....	0.241 167	0.171 265	0.144 209	0.011 144	3.782 204.8	0.200 74	0.100 67	0.760 174	0.77 12
45	Sydney (Fort Denison), New South Wales.....	0.419 129	0.102 268	0.065 237	.....	1.636 254.0	.....	.....	0.324 250	0.37 8
46	Melbourne (Williamstown), Victoria.....	0.294 132	0.028 172	0.013 74	.....	0.806 69.4	0.021 49	.....	0.093 65	0.25 8
47	Port Adelaide, South Australia.....	0.830 52	0.465 178	0.120 140	0.020 16	1.700 120.0	0.020 174	0.010 174	0.090 259	0.32 7
48	Rangoon, Burma.....	0.675 35	0.616 169	0.466 147	0.029 86	5.793 131.3	0.432 170	0.220 86	1.065 116	0.25 7
49	Calcutta (Kidderpore), India.....	0.392 54	0.447 94	0.206 71	0.026 107	3.634 57.6	0.740 37	0.154 322	0.669 44	0.26 6
50	Madras, India.....	0.292 342	0.117 277	0.041 300	0.013 337	1.037 250.2	0.007 198	0.008 157	0.237 242	0.08 1
51	Colombo (Ceylon), India.....	0.238 33	0.108 90	0.027 51	0.010 327	0.579 49.9	0.016 170	0.004 27	0.073 34	0.69 1
52	Bombay (Apollo Bandar), India.....	1.398 45	0.405 354	0.080 306	0.063 47	4.038 330.3	0.130 329	0.010 86	0.996 314	0.69 4
53	Karachi, India.....	1.294 46	0.278 319	0.080 297	0.044 43	2.537 293.7	0.028 7	0.048 206	0.605 277	0.65 4
54	Aden, Arabia.....	1.303 35	0.200 239	0.042 223	0.050 32	1.568 226.3	0.006 313	0.005 342	0.431 221	0.65 7
55	Cape Town (Table Bay), Africa.....	0.178 127	0.245 90	0.072 47	0.011 66	1.596 44.5	0.039 96	0.013 22	0.344 296	0.06 29
56	Lisbon (Arsenal), Portugal.....	0.209 39	0.441 83	0.154 61	.....	4.139 51.1	0.252 196	0.035 284	1.039 41	0.27 29
57	Rochelle, France.....	0.205 72	0.589 126	0.126 111	0.023 109	5.719 93.0	0.804 2	0.088 316	1.163 70	0.29 33
58	Brest, France.....	0.207 69	0.712 137	0.244 96	0.007 166	6.763 99.2	0.182 85	0.116 325	1.338 80	0.22 33
59	Havre, France.....	0.297 119	0.846 331	0.601 302	.....	8.745 286.5	0.786 85	0.574 301	1.703 262	0.15 7
60	Edinburgh (Leith), Scotland.....	0.316 204	0.345 88	0.167 70	.....	5.938 48.5	0.231 178	0.243 27	1.152 284	0.65 29
61	Hull (Humber River), England.....	0.560 282	0.636 228	0.390 198	.....	7.561 175.8	0.345 253	0.164 211	1.254 164	0.43 19
62	Sheerness (Thames River Entrance), England.....	0.377 14	0.470 47	0.347 6	.....	6.297 0.5	0.296 44	0.199 60	1.046 337	0.43 16
63	London (London Bridge), England.....	0.300 41	0.450 101	0.605 92	.....	8.313 55.0	0.821 20	.....	1.467 25	0.46 29
64	Dover, England.....	0.140 48	0.568 28	0.377 354	.....	7.203 336.1	0.740 229	0.173 102	1.353 320	0.18 19
65	Portland Breakwater, England.....	0.294 112	0.300 233	0.170 107	0.014 290	2.048 189.4	0.468 23	0.207 55	0.477 180	0.15 35
66	Liverpool, England.....	0.355 191	0.936 1	0.529 329	0.081 300	9.975 820.7	0.691 211	0.196 331	1.903 300	0.37 26
67	Greenock (Firth of Clyde), Scotland.....	0.193 224	0.284 27	0.259 316	.....	4.357 837.0	0.346 44	.....	0.707 309	0.24 4
68	Kingstown (Dublin Bay), Ireland.....	.....	0.280 351	0.221 320	.....	4.166 812.0	0.109 854	.....	0.794 290	.....
69	Queenstown (Haulbowline Island), Ireland.....	0.062 160	0.500 174	0.316 137	0.015 24	4.486 133.3	0.199 210	0.043 138	0.862 113	0.23 5
70	Hamburg, Germany.....	0.334 160	0.171 222	0.078 148	0.021 79	2.787 145.2	0.492 212	0.089 154	0.430 143	0.24 36

On the first line for each station the amplitudes (H) are given in feet, and on the second line the epochs (κ) in degrees. The British system has been adopted throughout this table.

* United States Coast and Geodetic Survey.

† Tidal and Current Survey of Canada.

No.	P_1 P_1°	Q_1 Q_1°	S_1 S_1°	T_1 T_1°	λ_1 λ_1°	μ_1 μ_1°	ν_1 ν_1°	MS_1 MS_1°	Sa Sa°	Ssa Ssa°	* Length of series analyzed.
37	0.384 288	0.156 230	0.564 291	0.085 281	.....	0.071 238	0.061 212	0.067 301	0.450 234	0.190 94	Hourly Ordinates for 2 calendar years, 1883 and 1889. §
38	0.291 93	0.190 16	1.067 348	.....	.....	0.051 97	0.058 226	.....	0.308 209	0.312 234	Hourly Ordinates for 1 year beginning Oct. 1, 1882. §
39	0.254 142	0.113 110	0.181 294	.....	0.021 127	0.032 205	0.016 343	.....	.....	.....	Hourly Ordinates for 7 years, 1887-1888, 1890-1891, 1891-1892, and 1901 to 1904. §§
40	0.804 317	0.181 264	0.222 338	0.013 338	0.005 321	0.016 272	0.024 292	.....	0.396 152	0.066 42	Hourly Ordinates for 2 years beginning Feb. 12, 1901, and Sept. 25, 1902.*
41	0.137 66	0.040 51	0.165 109	.....	.....	.....	0.013 188	.....	0.215 197	0.090 33	Hourly Ordinates for 1 year beginning June 17, 1891.*
42	0.080 252	.....	0.289 184	.....	.....	.....	.....	.....	.....	.....	From the German Tide Tables for 1903.
43	0.028 67	0.019 13	0.089 325	.....	.....	.....	0.068 108	.....	0.241 54	0.035 240	Hourly Ordinates for 1 calendar year, 1894.*
44	0.079 169	0.018 85	0.626 265	0.037 265	0.026 233	0.091 144	0.147 178	.....	0.357 88	0.185 266	High and Low Waters for 2 calendar years, 1896* and 1900.††
45	0.139 129	.....	0.375 268	.....	.....	.....	.....	.....	0.093 16	0.008 97	High and Low Waters for 1 year, 1888. ††
46	0.097 129	0.042 77	0.103 164	0.006 161	.....	.....	0.018 66	.....	.....	.....	High and Low Waters for 1 month, May, 1894.*
47	0.215 56	0.070 31	1.680 181	0.110 165	.....	.....	0.060 76	0.090 99	0.305 126	0.225 88	Hourly Ordinates for 2 years beginning Mar. 1, 1889, and Jan. 1, 1893. §
48	0.164 56	0.027 41	2.093 170	0.268 161	0.253 170	0.530 290	0.354 111	0.404 212	1.314 147	0.164 337	Hourly Ordinates for 16 years, 1880-1894, and 1900. §
49	0.141 44	0.029 358	1.502 100	0.139 149	0.089 93	0.237 187	0.227 22	0.673 80	2.853 156	0.934 330	Hourly Ordinates for 15 years, 1881-1894, and 1900. §
50	0.094 345	0.008 106	0.488 280	0.044 299	0.022 267	0.046 181	0.074 259	0.006 181	0.392 216	0.321 126	Hourly Ordinates for 11 years, 1880-1889, and 1900. §
51	0.072 26	0.032 88	0.391 96	0.034 54	0.024 44	0.017 104	0.018 41	0.009 253	0.313 308	0.133 111	Hourly Ordinates for 6 years beginning Feb. 1, 1884. §
52	0.408 44	0.137 49	1.806 4	0.168 15	0.028 210	0.200 305	0.187 311	0.138 30	0.107 349	0.136 204	Hourly Ordinates for 18 years, 1878-1894, and 1900. §
53	0.396 46	0.131 50	0.952 323	0.080 337	0.042 280	0.061 268	0.140 278	0.031 320	0.130 68	0.152 149	Hourly Ordinates for 28 years, 1868-1894, and 1900. §
54	0.393 31	0.148 38	0.684 246	0.052 240	0.027 198	0.075 193	0.098 227	0.017 157	0.381 356	0.127 131	Hourly Ordinates for 17 years, 1879-1894, and 1900. §
55	0.048 114	0.010 800	0.672 88	.....	.....	.....	0.067 25	.....	0.124 256	0.111 76	Hourly Ordinates for 1 calendar year, 1888.*
56	0.069 39	0.042 265	1.620 83	0.096 83	.....	0.099 19	0.205 43	0.195 228	.....	.....	Hourly Ordinates for January, 1897.*
57	0.078 66	0.076 275	2.029 126	0.119 128	.....	0.164 92	0.148 81	0.513 88	0.401 257	0.080 123	From Annales Hydrographiques, Paris, 1901.
58	0.072 60	0.086 278	2.471 139	0.129 128	.....	0.246 89	0.361 57	0.264 107	0.203 229	0.086 151	Hourly Ordinates for 2 calendar years, 1873 and 1875.**
59	0.089 103	0.029 344	2.848 333	0.184 323	.....	0.348 320	0.462 288	0.407 170	0.311 218	0.148 151	Hourly Ordinates for 1 calendar year, 1895.**
60	0.104 204	0.121 4	2.004 88	.....	.....	0.143 9	0.223 30	.....	0.177 220	0.082 113	Hourly Ordinates for 15 days beginning May 1, 1891.*
61	0.185 282	0.084 38	2.338 228	0.138 228	0.053 200	0.338 273	0.408 161	.....	.....	.....	Hourly Ordinates for 29 days beginning May 9, 1864.*
62	0.135 350	0.087 283	1.750 56	.....	.....	.....	0.203 310	.....	0.209 196	0.046 155	Hourly Ordinates for 1 year beginning Dec. 21, 1843.*
63	0.100 18	.....	1.640 110	.....	.....	0.340 159	0.465 43	.....	0.124 112	0.131 197	Inferred from constants for Sheerness and British Tide Tables for 1894.
64	0.050 21	.....	2.070 28	.....	.....	0.407 66	0.390 290	0.450 290	.....	.....	Hourly Ordinates for 3 calendar years, 1843, 1884, and 1885. §
65	0.108 106	0.032 290	1.074 239	.....	0.082 112	0.374 191	0.115 135	0.267 81	.....	.....	Hourly Ordinates for 4 years, 1851, 1857, 1866, and 1870. §
66	0.128 182	.....	3.161 6	0.235 327	0.228 330	0.255 33	0.529 286	0.406 258	0.362 238	0.142 189	Hourly Ordinates for 7 years, 1857-1860, and 1866-1870. §
67	0.063 137	0.040 327	1.036 42	.....	.....	0.105 272	0.137 312	.....	0.485 240	0.058 183	High and Low Waters for 1 calendar year, 1897.*
68	.....	.....	1.030 356	.....	.....	0.108 25	0.223 277	.....	.....	.....	Devised from British Tide Tables for 1894.
69	0.020 160	0.027 835	1.399 177	0.083 177	0.031 154	0.106 208	0.205 105	0.123 254	0.229 227	0.020 94	Hourly Ordinates for 162.5 days beginning May 23, 1904.*
70	0.110 160	0.047 279	0.626 222	0.037 222	0.019 181	0.467 226	0.140 205	.....	.....	.....	Hourly Ordinates for 29 days beginning Aug. 1, 1901.

† Japanese Government.
 § Proc. Roy. Soc. 1885, 1889, or 1902.
 †† R. W. Chapman and Captain Inglis.
 ¶ Reports of the Survey of India.

** Service Hydrographique de la Marine, France.
 †† The Admiralty, London, England.
 §§ J. P. Van der Stok.

TABLE 5.—ANNUAL VARIATION IN MEAN SEA LEVEL

Number.	Station.	January.		February.		March.		April.		May.	
		1	16	1	16	1	16	1	16	1	16
		feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.
1	St. Johns, Newfoundland	+0.3	+0.3	+0.2	+0.1	0.0	0.0	-0.1	-0.2	-0.2	-0.2
2	Halifax, Nova Scotia	+0.1	0.0	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	+0.1	+0.1
3	St. John, New Brunswick	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	+0.1	+0.2	+0.2
4	Portland, Me.	0.0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1
5	Boston, Mass.	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0	+0.1	-0.1
6	Newport, R. I.	0.0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	0.0
7	New London, Conn.	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	0.0	+0.1
8	Willetts Point, N. Y.	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	+0.1	-0.1
9	New York, N. Y.	-0.4	-0.4	-0.4	-0.3	-0.2	-0.1	0.0	+0.1	+0.2	+0.2
10	Sandy Hook, N. J.	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	0.0	0.0	+0.1
11	Philadelphia, Pa.	-0.5	-0.4	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3
12	Old Point Comfort, Va.	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	0.0	+0.1
13	Washington, D. C.	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.3	-0.1	0.0	+0.2
14	Baltimore, Md.	-0.5	-0.6	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	+0.1	+0.2
15	Wilmington, N. C.	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
16	Charleston, S. C.	-0.1	-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1
17	Savannah Entrance, Ga.	-0.3	-0.3	-0.3	-0.2	-0.1	0.0	0.0	+0.1	+0.1	+0.1
18	Fernandina, Fla.	+0.3	+0.2	+0.1	-0.2	-0.3	-0.5	-0.7	-0.7	-0.6	-0.5
19	Key West, Fla.	+0.1	0.0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
20	Galveston, Tex.	-0.5	-0.6	-0.6	-0.6	-0.5	-0.3	-0.2	-0.1	-0.1	-0.1
21	Buenos Ayres, Argentina	+0.2	+0.3	+0.4	+0.5	+0.5	+0.5	+0.4	+0.2	0.0	-0.1
22	Cape Horn, South America	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.0	+0.1	+0.1	+0.1
23	Valparaiso, Chile	+0.1	+0.2	+0.2	+0.2	+0.2	+0.1	+0.1	0.0	0.0	0.0
24	Panama, Panama	-0.1	-0.4	-0.6	-0.8	-0.9	-0.9	-0.7	-0.5	-0.3	0.0
25	San Diego, Cal.	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3
26	San Francisco Entrance, Cal.	+0.1	0.0	-0.1	-0.2	-0.4	-0.5	-0.5	-0.5	-0.4	-0.3
27	Astoria, Oreg.	+0.4	+0.3	+0.1	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0
28	Port Townsend, Wash.	+0.4	+0.4	+0.4	+0.3	+0.2	0.0	-0.1	-0.2	-0.2	-0.2
29	Sitka, Alaska	+0.2	+0.2	+0.3	+0.3	+0.2	+0.1	+0.1	0.0	-0.1	-0.1
30	Kodiak (St. Paul Harbor), Alaska	0.0	-0.1	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	-0.1
31	St. Michael, Alaska									-0.7	-0.5
32	Yokohama, Japan	0.0	0.0	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1
33	Nagasaki, Japan										
34	Tientsin Entrance, China										
35	Shanghai, China	-1.6	-1.9	-2.0	-1.8	-1.5	-1.0	-0.5	-0.1	+0.4	+0.8
36	Amoy, China										
37	Hongkong, China	+0.2	+0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	-0.2	-0.3
38	Singapore, Malay Peninsula	+0.4	+0.3	+0.2	0.0	-0.2	-0.3	-0.5	-0.6	-0.8	-0.5
39	Batavia, Java										
40	Manila, Philippine Islands	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	

Number.	June.		July.		August.		September.		October.		November.		December.	
	1	16	1	16	1	16	1	16	1	16	1	16	1	16
	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.	feet.
1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	+0.1	+0.1	+0.2	+0.2
2	0.0	0.0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	0.0	+0.2	+0.3	+0.3	+0.3	+0.2
3	+0.3	+0.2	+0.2	+0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	+0.1	0.0	0.0
4	-0.1	0.0	0.0	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.1	+0.1	0.0	0.0
5	+0.1	+0.1	+0.1	0.0	0.0	0.0	0.0	0.0	0.0	+0.1	+0.1	0.0	0.0	-0.1
6	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	0.0
7	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.1	0.0	-0.1
8	+0.2	+0.2	+0.2	+0.2	+0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0
9	+0.1	+0.1	+0.1	+0.1	+0.1	+0.2	+0.2	+0.3	+0.3	+0.2	+0.1	0.0	-0.1	-0.3
10	+0.1	+0.1	+0.1	+0.1	+0.1	+0.2	+0.2	+0.2	+0.3	+0.2	+0.2	+0.1	-0.1	-0.2
11	-0.2	-0.1	+0.1	+0.3	+0.5	+0.7	+0.7	+0.7	+0.5	+0.3	0.0	-0.3	-0.4	-0.5
12	+0.3	+0.3	+0.4	+0.4	+0.3	+0.2	+0.2	+0.1	+0.1	0.0	0.0	0.0	-0.1	-0.2
13	+0.3	+0.4	+0.4	+0.3	+0.2	+0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	+0.3	+0.3	+0.4	+0.4	+0.4	+0.4	+0.4	+0.4	+0.3	+0.2	+0.1	-0.1	-0.2	-0.4
15	-0.1	0.0	+0.1	+0.1	+0.2	+0.2	+0.3	+0.3	+0.3	+0.3	+0.2	+0.2	+0.1	0.0
16	-0.1	-0.1	-0.1	-0.1	-0.1	+0.1	+0.2	+0.3	+0.4	+0.4	+0.4	+0.3	+0.2	0.0
17	+0.1	+0.1	+0.1	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.1	0.0	-0.1	-0.2	-0.2
18	-0.2	0.0	+0.2	+0.4	+0.4	+0.4	+0.3	+0.2	+0.1	+0.1	+0.1	+0.2	+0.3	+0.3
19	-0.3	-0.2	-0.2	-0.1	-0.1	0.0	+0.1	+0.3	+0.4	+0.4	+0.4	+0.4	+0.3	+0.3
20	-0.1	-0.2	-0.1	0.0	+0.1	+0.3	+0.5	+0.7	+0.8	+0.8	+0.6	+0.4	+0.1	-0.2
21	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	+0.1
22	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2
23	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	+0.1
24	+0.2	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.4	+0.4	+0.5	+0.6	+0.5	+0.4	+0.2
25	-0.2	-0.1	0.0	+0.1	+0.2	+0.3	+0.3	+0.3	+0.2	+0.2	+0.1	0.0	0.0	0.0
26	-0.1	+0.1	+0.2	+0.3	+0.4	+0.4	+0.4	+0.3	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2
27	+0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	0.0	+0.2	+0.4	+0.5	+0.5
28	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	+0.1	+0.2	+0.3
29	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	0.0	0.0	+0.1	+0.1	+0.1	+0.2	+0.2
30	0.0	0.0	0.0	0.0	0.0	0.0	+0.1	+0.2	+0.3	+0.4	+0.5	+0.4	+0.4	+0.2
31	-0.2	+0.1	+0.5	+0.7	+0.7	+0.6	+0.3	-0.1	-0.5					
32	-0.1	0.0	0.0	0.0	+0.1	+0.1	+0.2	+0.3	+0.3	+0.4	+0.4	+0.3	+0.3	+0.1
33														
34														
35	+1.0	+1.0	+1.1	+1.1	+1.1	+1.1	+1.1	+1.1	+1.0	+0.8	+0.4	0.0	-0.5	-1.1
36														
37	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	0.0	+0.2	+0.4	+0.5	+0.6	+0.6	+0.6	+0.4
38	-0.3	-0.1	+0.1	+0.3	+0.3	+0.3	+0.2	+0.1	+0.1	0.0	0.0	+0.1	+0.2	+0.3
39														
40	0.0	+0.1	+0.2	+0.2	+0.3	+0.4	+0.4	+0.4	+0.4	+0.3	+0.2	+0.1	-0.1	-0.2
41	-0.2	-0.1	-0.1	0.0	0.0	+0.1	+0.2	+0.3	+0.3	+0.3	+0.3	+0.2	+0.1	0.0
42														
43	+0.1	+0.1	+0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1
44	+0.2	+0.2	+0.2	+0.1	+0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.5	-0.4	-0.3
45	+0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0
46														
46	+0.5	+0.4	+0.3	+0.2	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	0.0	0.0	0.0	-0.1
47	+0.3	+0.4	+0.3	+0.3	+0.2	+0.1	0.0	0.0	-0.1	-0.1	-0.2	-0.2	-0.1	0.0
48	+0.1	+0.4	+0.8	+1.1	+1.3	+1.5	+1.5	+1.4	+1.2	+0.8	+0.5	+0.4	+0.3	+0.3
49	-0.8	-0.1	+0.9	+1.8	+2.8	+3.4	+3.6	+3.8	+2.7	+1.8	+0.9	-0.2	-0.9	-1.5
50	-0.1	0.0	-0.1	-0.1	-0.2	-0.2	-0.1	0.0	+0.2	+0.4	+0.6	+0.7	+0.7	+0.6
51														
51	0.0	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.3	-0.2	-0.1	+0.1	+0.2	+0.2	+0.2
52	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	0.0	+0.1	+0.2
53	+0.3	+0.3	+0.2	+0.1	0.0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.0
54	+0.2	+0.1	0.0	-0.1	-0.3	-0.4	-0.5	-0.5	-0.5	-0.3	-0.2	-0.1	0.0	0.0
55	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.0	+0.1	+0.2	+0.2	+0.2	+0.2	+0.1
56														
56	-0.3	-0.3	-0.4	-0.3	-0.3	-0.2	-0.1	0.0	+0.1	+0.3	+0.4	+0.4	+0.5	+0.5
57	+0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	+0.1	+0.2	+0.2	+0.3	+0.3	+0.3
58	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	+0.1	+0.2	+0.3	+0.4	+0.4	+0.4	+0.4
59	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	+0.1	+0.1	+0.2	+0.2	+0.3	+0.2	+0.2
60														
61														
61	-0.1	0.0	0.0	0.0	+0.1	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.1
62	+0.2	+0.2	+0.3	+0.2	+0.2	+0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0
63														
64														
65														
66	-0.3	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.0	+0.1	+0.2	+0.3	+0.4	+0.4	+0.5
67	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	0.0	+0.1	+0.3	+0.3	+0.4	+0.5	+0.5	+0.5
68														
68	-0.2	-0.2	-0.1	-0.1	0.0	0.0	+0.1	+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2
69														
70														

TABLE 6.—MOON'S TRANSITS, AND EQUATION OF TIME, 1909.

Greenwich Mean Civil Time of the Moon's Upper and Lower Transits, and the Equation of Time, 1909.

Day of month.	January.			February.			March.			April.			May.			June.		
	Transit.			Transit.			Transit.			Transit.			Transit.			Transit.		
	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.	Merid- ian of Green- wich.	Diff. for 1 hr. of longi- tude.	Equa- tion of time.
1	h. m. (7 43) 20 07	2.0	+ 3.6	h. m. (9 04) 21 30	2.2	+13.7	h. m. (7 53) 20 19	2.2	+12.6	h. m. (9 08) 21 30	1.9	+4.1	h. m. (9 14) 21 34	1.7	-2.9	h. m. (9 55) 22 17	1.8	-2.5
2	(8 82) 20 57	2.1	+ 4.0	(9 56) 22 23	2.2	+13.9	(8 45) 21 11	2.2	+12.4	(9 52) 22 14	1.8	+3.8	(9 54) 22 14	1.7	-3.1	(10 40) 23 04	2.0	-2.3
3	(9 28) 21 49	2.2	+ 4.5	(10 49) 23 14	2.1	+14.0	(9 36) 22 00	2.1	+12.2	(10 31) 22 55	1.7	+3.5	(10 35) 22 55	1.7	-3.2	(11 29) 23 55	2.1	-2.2
4	(10 15) 22 42	2.2	+ 5.0	(11 39) 23 36	2.0	+14.1	(10 24) 22 47	2.0	+12.0	(11 15) 23 36	1.7	+3.2	(11 16) 23 38	1.8	-3.3	..... (12 22)	2.3	-2.0
5	(11 09) 23 36	2.2	+ 5.4	0 03 (12 27)	2.0	+14.2	(11 10) 23 32	1.9	+11.8	(11 56) 23 36	1.7	+2.9	(12 00) 23 38	1.9	-3.4	0 49 (13 17)	2.3	-1.8
6	..... (12 02)	2.2	+ 5.9	0 50 (13 12)	1.9	+14.2	(11 54) 23 32	1.8	+11.5	0 16 (12 36)	1.7	+2.6	0 23 (12 46)	1.9	-3.5	1 46 (14 15)	2.4	-1.7
7	0 28 (12 54)	2.2	+ 6.3	1 34 (13 55)	1.8	+14.3	0 15 (12 35)	1.7	+11.3	0 57 (13 18)	1.8	+2.3	1 10 (13 36)	2.1	-3.5	2 44 (15 14)	2.1	-1.5
8	1 20 (13 44)	2.1	+ 6.7	2 16 (14 37)	1.7	+14.4	0 56 (13 16)	1.7	+11.0	1 40 (14 02)	1.8	+2.0	2 02 (14 28)	2.2	-3.6	3 42 (16 10)	2.4	-1.3
9	2 08 (14 31)	2.0	+ 7.1	2 57 (15 17)	1.7	+14.4	1 36 (13 56)	1.7	+10.8	2 25 (14 49)	2.0	+1.7	2 56 (15 24)	2.3	-3.7	4 38 (17 05)	2.3	-1.1
10	2 54 (15 16)	1.9	+ 7.6	3 37 (15 58)	1.7	+14.4	2 17 (14 37)	1.7	+10.5	3 14 (15 39)	2.1	+1.5	3 53 (16 21)	2.4	-3.7	5 31 (17 57)	2.2	-0.9
11	3 38 (15 58)	1.8	+ 8.0	4 18 (16 39)	1.7	+14.4	2 58 (15 20)	1.8	+10.3	4 06 (16 33)	2.2	+1.2	4 50 (17 18)	2.4	-3.8	6 22 (18 47)	2.1	-0.7
12	4 19 (16 39)	1.7	+ 8.3	5 00 (17 22)	1.8	+14.4	3 42 (16 04)	1.9	+10.0	5 00 (17 29)	2.3	+0.9	5 46 (18 14)	2.3	-3.8	7 12 (19 36)	2.0	-0.5
13	5 00 (17 20)	1.7	+ 8.7	5 45 (18 09)	1.9	+14.4	4 28 (16 52)	2.0	+ 9.7	5 57 (18 26)	2.4	+0.7	6 41 (19 08)	2.2	-3.8	8 01 (20 26)	2.1	-0.3
14	5 40 (18 01)	1.7	+ 9.1	6 33 (18 59)	2.1	+14.4	5 17 (17 43)	2.1	+ 9.5	6 55 (19 24)	2.4	+0.4	7 34 (20 00)	2.2	-3.8	8 51 (21 17)	2.1	-0.1
15	6 22 (18 44)	1.8	+ 9.5	7 25 (19 53)	2.3	+14.3	6 10 (18 38)	2.3	+ 9.2	7 52 (20 20)	2.4	+0.1	8 26 (20 51)	2.1	-3.8	9 43 (22 10)	2.2	+0.1
16	7 06 (19 29)	1.9	+ 9.8	8 22 (20 52)	2.4	+14.3	7 07 (19 37)	2.4	+ 8.9	8 48 (21 15)	2.3	-0.1	9 16 (21 42)	2.1	-3.8	10 37 (23 05)	2.3	+0.3
17	7 58 (20 19)	2.0	+10.2	9 22 (21 53)	2.6	+14.2	8 06 (20 36)	2.5	+ 8.6	9 42 (22 09)	2.2	-0.3	10 07 (22 33)	2.2	-3.8	11 33 (23 51)	2.4	+0.5
18	8 45 (21 12)	2.2	+10.5	10 24 (22 65)	2.6	+14.1	9 06 (21 36)	2.5	+ 8.3	10 35 (23 01)	2.2	-0.6	11 00 (23 26)	2.2	-3.8	0 02 (24 30)	2.4	+0.7
19	9 41 (22 11)	2.4	+10.8	11 25 (23 55)	2.5	+14.1	10 05 (22 34)	2.4	+ 8.0	11 28 (23 54)	2.2	-0.8	11 54 (24 20)	2.3	-3.7	0 59 (25 12)	2.4	+1.0
20	10 41 (23 12)	2.6	+11.1	..... 12 24	2.5	+14.0	11 02 (23 30)	2.3	+ 7.7	..... 12 20	2.2	-1.0	0 22 12 50	2.3	-3.7	1 55 14 21	2.3	+1.2
21	11 43	2.6	+11.4	0 53 13 21	2.4	+13.9	11 57	2.3	+ 7.4	0 47 13 14	2.2	-1.2	1 19 13 47	2.4	-3.6	2 47 15 12	2.1	-1.4
22	0 15 12 46	2.6	+11.7	1 48 14 15	2.2	+13.7	0 24 12 51	2.2	+ 7.1	1 42 14 10	2.3	-1.4	2 16 14 44	2.4	-3.6	3 37 16 00	2.0	+1.6
23	1 16 13 45	2.5	+11.9	2 41 15 07	2.2	+13.6	1 17 13 44	2.2	+ 6.8	2 38 15 06	2.3	-1.6	3 12 15 40	2.3	-3.5	4 23 16 44	1.9	+1.8
24	2 14 14 42	2.4	+12.2	3 32 15 58	2.1	+13.5	2 10 14 37	2.2	+ 6.5	3 34 16 03	2.4	-1.8	4 06 16 32	2.2	-3.4	5 06 17 26	1.8	+2.0
25	3 09 15 35	2.2	+12.4	4 23 16 49	2.1	+13.3	3 04 15 30	2.2	+ 6.2	4 30 16 58	2.3	-2.0	5 07 17 21	2.0	-3.3	6 07 18 07	1.7	+2.3
26	4 01 16 26	2.1	+12.7	5 15 17 41	2.2	+13.1	3 57 16 25	2.3	+ 5.9	5 25 17 51	2.2	-2.2	6 00 18 07	1.9	-3.2	7 07 18 47	1.7	+2.5
27	4 51 17 16	2.1	+12.9	6 07 18 34	2.2	+13.0	4 52 17 19	2.3	+ 5.6	6 16 18 41	2.1	-2.3	6 28 18 50	1.8	-3.1	7 28 19 28	1.7	+2.7
28	5 40 18 05	2.1	+13.1	7 00 19 27	2.2	+12.8	5 47 18 14	2.3	+ 5.3	7 04 19 27	1.9	-2.5	7 10 19 31	1.7	-3.0	8 11 20 10	1.8	+2.9
29	6 30 18 54	2.1	+13.3	.....	.....	.....	6 40 19 07	2.2	+ 5.0	7 50 20 11	1.8	-2.7	7 51 20 11	1.7	-2.9	8 33 20 56	1.9	+3.1
30	7 20 19 45	2.1	+13.4	.....	.....	.....	7 32 19 57	2.1	+ 4.7	8 32 20 53	1.7	-2.8	8 31 20 52	1.7	-2.8	9 20 21 45	2.0	+3.3
31	8 11 20 37	2.2	+13.6	.....	.....	.....	8 22 20 45	2.0	+ 4.4	.....	.....	.....	9 12 21 33	1.7	-2.6	.....	.....	.....

The lower transits are inclosed in parentheses. In Table 6, 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m. To adapt this table to the local time of another meridian, add the tabular hourly difference for each hour or 15° of west longitude, and subtract the same for east longitude.

The equation of time is for Greenwich apparent noon, and is such that when applied according to sign to apparent time the result is mean time. To change local to standard time add *L-S* for west longitudes, and subtract the same for east longitudes.

TABLE 6.—MOON'S TRANSITS, AND EQUATION OF TIME, 1909.

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Greenwich Mean Civil Time of the Moon's Upper and Lower Transits, and the Equation of Time, 1909.

Day of month.	July.			August.			September.			October.			November.			December.		
	Transit.		Equation of time.	Transit.		Equation of time.	Transit.		Equation of time.	Transit.		Equation of time.	Transit.		Equation of time.	Transit.		Equation of time.
	Meridian of Greenwich.	Diff. for 1 hr. of longitude.		Meridian of Greenwich.	Diff. for 1 hr. of longitude.		Meridian of Greenwich.	Diff. for 1 hr. of longitude.		Meridian of Greenwich.	Diff. for 1 hr. of longitude.		Meridian of Greenwich.	Diff. for 1 hr. of longitude.		Meridian of Greenwich.	Diff. for 1 hr. of longitude.	
1	h. m. (10 11) 22 38	2.2	+3.5	h. m. (11 48) 2.5	+6.1		h. m. (0 51) 2.2	+0.1		h. m. (1 15) 2.2	-10.2		h. m. (2 45) 2.5	-16.3		h. m. (8 24) 2.3	-11.0	
2	(11 06) 23 35	2.4	+3.7	0 18 (12 47)	2.5	+6.1	1 44 (14 11)	2.2	-0.8	2 09 (14 37)	2.3	-10.5	3 44 (16 13)	2.4	-16.3	4 17 (16 42)	2.2	-10.6
3	(12 04)	2.4	+3.9	1 16 (13 44)	2.4	+6.0	2 37 (15 08)	2.2	-0.6	3 05 (15 33)	2.4	-10.8	4 42 (17 09)	2.3	-16.4	5 07 (17 30)	2.0	-10.3
4	0 34 (13 04)	2.5	+4.0	2 11 (14 38)	2.2	+5.9	3 29 (15 55)	2.2	-0.9	4 02 (16 31)	2.4	-11.1	5 36 (18 02)	2.2	-16.4	5 52 (18 14)	1.8	-9.9
5	1 33 (14 03)	2.5	+4.2	3 04 (15 30)	2.2	+5.8	4 22 (16 48)	2.2	-1.2	4 59 (17 28)	2.4	-11.4	6 26 (18 50)	2.0	-16.3	6 34 (18 55)	1.7	-9.5
6	2 31 (14 59)	2.4	+4.4	3 55 (16 20)	2.1	+5.7	5 16 (17 43)	2.3	-1.6	5 56 (18 24)	2.3	-11.7	7 13 (19 35)	1.9	-16.3	7 15 (19 35)	1.7	-9.0
7	3 27 (15 53)	2.2	+4.6	4 45 (17 10)	2.1	+5.6	6 11 (18 39)	2.3	-1.9	6 50 (19 17)	2.2	-12.0	7 56 (20 17)	1.8	-16.3	7 55 (20 14)	1.6	-8.6
8	4 19 (16 44)	2.1	+4.7	5 35 (18 01)	2.1	+5.5	7 06 (19 34)	2.3	-2.2	7 42 (20 06)	2.1	-12.3	8 37 (20 58)	1.7	-16.2	8 35 (20 55)	1.7	-8.2
9	5 09 (17 34)	2.1	+4.9	6 27 (18 53)	2.2	+5.4	8 01 (20 28)	2.3	-2.6	8 30 (20 53)	1.9	-12.6	9 17 (21 37)	1.6	-16.1	9 16 (21 37)	1.8	-7.7
10	5 59 (18 23)	2.0	+5.0	7 20 (19 48)	2.3	+5.2	8 54 (21 20)	2.2	-2.9	9 15 (21 37)	1.8	-12.8	9 57 (22 17)	1.7	-16.0	9 59 (22 22)	1.9	-7.3
11	6 48 (19 13)	2.1	+5.2	8 15 (20 43)	2.3	+5.1	9 45 (22 08)	2.0	-3.3	9 58 (22 18)	1.7	-13.1	10 38 (22 58)	1.7	-15.9	10 46 (23 10)	2.0	-6.8
12	7 38 (20 04)	2.1	+5.3	9 10 (21 38)	2.3	+4.9	10 32 (22 54)	1.9	-3.6	10 38 (22 58)	1.7	-13.4	11 20 (23 41)	1.8	-15.8	11 36 (23 41)	2.2	-6.4
13	8 30 (20 57)	2.2	+5.4	10 05 (22 32)	2.2	+4.8	11 16 (23 37)	1.8	-4.0	11 18 (23 38)	1.7	-13.6	12 04 (23 41)	1.9	-15.7	(0 02) 12 29	2.2	-5.9
14	9 24 (21 52)	2.3	+5.5	10 58 (23 23)	2.1	+4.6	11 58 (23 37)	1.7	-4.3	11 58 (23 38)	1.7	-13.8	(0 27) 12 51	2.0	-15.5	(0 56) 13 24	2.3	-5.4
15	10 20 (22 48)	2.3	+5.7	11 48 (23 41)	2.0	+4.4	(0 19) 12 39	1.7	-4.7	(0 18) 12 39	1.7	-14.1	(1 16) 13 42	2.1	-15.4	(1 53) 14 21	2.3	-4.9
16	11 16 (23 41)	2.3	+5.8	(0 11) 12 34	1.9	+4.2	(0 58) 13 19	1.7	-5.0	(1 00) 13 21	1.8	-14.3	(2 08) 14 35	2.2	-15.2	(2 48) 15 16	2.3	-4.4
17	12 11 (23 41)	2.3	+5.9	(0 56) 13 18	1.8	+4.0	(1 38) 13 59	1.7	-5.4	(1 43) 14 06	1.9	-14.5	(3 02) 15 30	2.3	-15.0	(3 43) 16 10	2.2	-4.0
18	(0 38) 13 04	2.2	+5.9	(1 39) 14 00	1.7	+3.8	(2 19) 14 40	1.7	-5.7	(2 30) 14 54	2.0	-14.7	(3 58) 16 25	2.3	-14.8	(4 35) 17 01	2.1	-3.5
19	(1 29) 13 53	2.0	+6.0	(2 20) 14 40	1.7	+3.6	(3 01) 15 23	1.8	-6.1	(3 19) 15 45	2.1	-14.9	(4 53) 17 20	2.3	-14.6	(5 26) 17 50	2.1	-3.0
20	(2 16) 14 39	1.9	+6.1	(3 00) 15 20	1.7	+3.4	(3 45) 16 09	1.9	-6.4	(4 12) 16 39	2.2	-15.1	(5 46) 18 12	2.2	-14.4	(6 15) 18 39	2.0	-2.5
21	(3 00) 15 22	1.8	+6.2	(3 40) 16 00	1.7	+3.1	(4 33) 16 58	2.0	-6.8	(5 06) 17 34	2.3	-15.2	(6 38) 19 04	2.1	-14.1	(7 03) 19 28	2.0	-2.0
22	(3 42) 16 03	1.7	+6.2	(4 21) 16 42	1.8	+2.9	(5 24) 17 51	2.2	-7.1	(6 02) 18 30	2.3	-15.4	(7 29) 19 54	2.1	-13.9	(7 53) 20 18	2.1	-1.5
23	(4 23) 16 43	1.7	+6.2	(5 04) 17 27	1.9	+2.6	(6 18) 18 46	2.3	-7.5	(6 58) 19 26	2.3	-15.5	(8 19) 20 44	2.1	-13.6	(8 45) 21 12	2.2	-1.0
24	(5 03) 17 23	1.7	+6.3	(5 50) 18 14	2.0	+2.4	(7 15) 19 44	2.4	-7.8	(7 53) 20 20	2.3	-15.7	(9 10) 21 36	2.1	-13.8	(9 39) 22 08	2.3	-0.5
25	(5 44) 18 04	1.7	+6.3	(6 40) 19 06	2.2	+2.1	(8 13) 20 42	2.4	-8.2	(8 46) 21 13	2.2	-15.8	(10 02) 22 29	2.2	-13.0	(10 37) 23 07	2.5	0.0
26	(6 26) 18 48	1.8	+6.3	(7 34) 20 02	2.3	+1.8	(9 10) 21 39	2.4	-8.5	(9 39) 22 05	2.2	-15.9	(10 57) 23 26	2.4	-12.7	(11 37) 23 59	2.5	+0.5
27	(7 11) 19 34	1.9	+6.3	(8 31) 21 00	2.4	+1.6	(10 07) 22 34	2.3	-8.9	(10 31) 22 58	2.2	-16.0	(11 55) 23 59	2.5	-12.4	0 07 (12 37)	2.5	+1.0
28	(7 59) 20 25	2.1	+6.3	(9 30) 22 00	2.5	+1.3	(11 02) 23 28	2.3	-9.2	(11 24) 23 52	2.2	-16.1	0 25 (12 55)	2.5	-12.1	1 07 (13 36)	2.4	+1.5
29	(8 52) 21 20	2.3	+6.3	(10 30) 22 59	2.5	+1.0	(11 55) 23 59	2.2	-9.5	(12 19)	2.3	-16.2	1 28 (13 56)	2.5	-11.7	2 04 (14 30)	2.3	+2.0
30	(9 48) 22 18	2.4	+6.2	(11 28) 23 56	2.4	+0.7	0 22 (12 48)	2.2	-9.9	0 47 (13 16)	2.4	-16.2	2 26 (14 55)	2.5	-11.4	2 56 (15 20)	2.1	+2.5
31	(10 48) 23 18	2.5	+6.2	(12 24)	2.3	+0.4				1 45 (14 15)	2.4	-16.3				3 44 (16 07)	1.9	+3.0

The lower transits are inclosed in parentheses. In Table 6, 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m.

To adapt this table to the local time of another meridian, add the tabular hourly difference for each hour or 15° of west longitude, and subtract the same for east longitude.

The equation of time is for Greenwich apparent noon, and is such that when applied according to sign to apparent time the result is mean time. To change local to standard time add $L-S$ for west longitudes, and subtract the same for east longitudes.

TABLE 7.—MOON'S PHASES, APOGEE AND PERIGEE, 1909.

Greenwich Mean Civil Time of the Moon's Phases, Apogee and Perigee.

Moon's Phases, 1909.												Moon in—					
● New Moon.			☾ First Quarter.			○ Full Moon.			☾ Last Quarter.			Apogee.			Perigee.		
mo.	d.	h. m.	mo.	d.	h. m.	mo.	d.	h. m.	mo.	d.	h. m.	mo.	d.	h.	mo.	d.	h.
Jan. 22	00	12	Jan. 28	15	07	Jan. 6	14	13	Jan. 14	18	11	Jan. 11	14	9	Jan. 23	13	2
Feb. 20	10	52	Feb. 27	02	49	Feb. 5	08	25	Feb. 13	12	47	Feb. 8	05	3	Feb. 20	23	4
Mar. 21	20	11	Mar. 28	16	49	Mar. 7	02	56	Mar. 15	03	42	Mar. 7	08	0	Mar. 21	11	4
Apr. 20	04	51	Apr. 27	08	36	Apr. 5	20	28	Apr. 13	14	30	Apr. 3	10	9	Apr. 18	20	4
May 19	13	42	May 27	01	28	May 5	12	08	May 12	21	45	Apr. 30	23	9	May 16	20	5
June 17	23	28	June 25	18	43	June 4	01	25	June 11	02	43	May 28	17	4	June 12	16	3
July 17	10	45	July 25	11	45	July 3	12	17	July 10	06	58	June 25	12	2	July 7	20	1
Aug. 15	23	55	Aug. 24	03	55	Aug. 31	05	08	Aug. 8	12	10	July 23	06	3	Aug. 4	04	0
Sept. 14	15	09	Sept. 22	18	32	Sept. 29	13	05	Sept. 6	06	44	Aug. 19	22	7	Sept. 1	07	3
Oct. 14	08	13	Oct. 22	07	04	Oct. 28	22	07	Oct. 6	06	44	Sept. 16	09	5	Sept. 29	17	0
Nov. 13	02	18	Nov. 20	17	29	Nov. 27	08	52	Nov. 4	21	38	Oct. 13	11	6	Oct. 28	04	7
Dec. 12	19	59	Dec. 20	02	18	Dec. 26	21	30	Dec. 4	16	12	Nov. 9	17	4	Nov. 25	13	5
												Dec. 7	09	7	Dec. 23	08	8

In the above table 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m.

This table may be adapted to any other meridian than Greenwich by adding the longitude in time when it is east, and subtracting it when west.

TABLE 8.—MOON'S DECLINATION, 1909.

Greenwich Mean Civil Time of the Moon's greatest Declination North and South and Passage over the Equator.

Moon on Equator.				Moon Farthest North.				Moon on Equator.				Moon Farthest South.											
Time.				Time.				Declination.				Time.				Time.				Declination.			
mo.	d.	h.	m.	mo.	d.	h.	m.	°	'	mo.	d.	h.	m.	mo.	d.	h.	m.	°	'				
				Jan. 6	6	30		24	21	Jan. 13	17	43		Jan. 20	15	34		24	22				
Jan. 26	17	41		Feb. 2	12	22		24	24	Feb. 9	23	59		Feb. 17	1	41		24	29				
Feb. 23	1	53		Mar. 1	17	18		24	34	Mar. 9	5	27		Mar. 16	10	09		24	44				
Mar. 22	12	22		Mar. 28	23	21		24	50	Apr. 5	11	20		Apr. 12	16	40		24	59				
Apr. 18	23	14		Apr. 25	7	32		25	03	May 2	18	18		May 9	22	19		25	08				
May 16	8	26		May 22	17	04		25	10	May 30	2	07		June 6	4	36		25	10				
June 12	15	09		June 19	2	17		25	10	June 26	10	03		July 3	12	17		25	09				
July 9	20	15		July 16	9	49		25	09	July 23	17	20		July 30	21	12		25	11				
Aug. 6	1	49		Aug. 12	15	28		25	14	Aug. 19	23	41		Aug. 27	6	25		25	21				
Sept. 2	9	38		Sept. 8	20	22		25	26	Sept. 16	5	30		Sept. 23	14	45		25	35				
Sept. 29	19	56		Oct. 6	2	20		25	41	Oct. 13	11	29		Oct. 20	21	32		25	49				
Oct. 27	7	12		Nov. 2	10	39		25	52	Nov. 9	18	07		Nov. 17	3	14		25	55				
Nov. 23	17	00		Nov. 29	20	51		25	55	Dec. 7	1	25		Dec. 14	9	16		25	54				
Dec. 20	23	47		Dec. 27	6	58		25	53														

In the above table 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m.

This table may be adapted to any other meridian than Greenwich by adding the longitude in time when it is east, and subtracting it when west.

TABLE 9.—CURRENTS.

These current tables are restricted to portions of the Atlantic and Pacific coasts of the United States and adjacent territory. The bearings and directions are true—that is, not magnetic—and all distances are in nautical miles. The matter in these tables is given in one of the five following forms:

1. Current diagrams are given for the seven following localities:

Georges Bank, from Nantucket Shoals to Cape Sable.

Boston Harbor, Massachusetts.

Nantucket and Vineyard sounds.

East River, New York.

New York entrance, by way of Sandy Hook.

Delaware Bay.

Chesapeake Bay.

These diagrams were made according to a plan devised jointly in 1894 by Lieut. E. H. Tillman, U. S. Navy, assistant, Coast and Geodetic Survey, and Capt. John Ross, nautical expert, of the same Survey. The diagram for Georges Bank contains both direction and velocity of the current for any time, but the other diagrams give merely the velocity, as the direction is assumed to be fixed by the banks or shoals along the course.

2. Tables in which the direction and velocity of the current are given for each hour of the tide at some reference station. These tables are distributed as follows:

7 stations in Portsmouth Harbor, referred to Portland, Maine.

17 stations in Boston Harbor, referred to Boston, Massachusetts.

3 stations off Chatham Lights, referred to Boston, Massachusetts.

2 stations in Long Island Sound, referred to New London, Connecticut.

4 stations in Arthur Kill, referred to Sandy Hook, New Jersey.

4 stations in Newark Bay, referred to New York, New York.

3 stations in Kill von Kull, referred to New York, New York.

The direction of the current is given on the upper line and the velocities, in knots, on the lower line for each station.

3. Some general remarks are given about the currents in the following localities:

Currents off Cape Cod Peninsula.

Currents in Block Island Sound.

Currents in Long Island Sound.

Currents in East River, New York.

Currents in Hudson River, New York.

4. The predicted time of the slack waters for every day in the year are given for the two following stations:

Seymour Narrows, British Columbia.

Sergius Narrows, Alaska.

5. Brief directions are given for obtaining slack waters at the 9 following stations in Georgia Strait, British Columbia:

Race Passage.

East Point.

Active Pass.

Portier Pass.

Dodd Narrows.

Burrard Inlet.

Yuculta Rapids.

Hole in the Wall.

Seechelt Rapids.

Explanation of Current Diagram, Georges Bank.

The diagram on the opposite page represents only average conditions of the current at 14 stations along a curved line extending from the southern part of Nova Scotia to the Nantucket Shoals light vessel, the scale being too small to show details. The line may be defined as the arc of a circumference passing through Nantucket Shoals light vessel (lat. $40^{\circ} 37' N.$, long. $69^{\circ} 37' W.$), with its center at Bath, Maine. The stations represented are approximately 20 miles apart, and No. 14 is at Nantucket Shoals light vessel.

The observations upon which the diagram is based are insufficient to give any but roughly approximate results, which it is hoped, however, will be near enough to the fact to be of service to the mariner.

On the diagram the currents flowing into the Gulf of Maine are designated as "Flood" currents, and those flowing from it as "Ebb" currents.

The direction and the velocity of the currents are indicated by the small figures within the diagram. The upper numbers represent the direction in degrees of azimuth reckoned from the south toward the west. In this system $S=0^{\circ}$, $W=90^{\circ}$, $N=180^{\circ}$, and $E=270^{\circ}$. The lower numbers represent the velocity in knots.

Example 1.—A vessel in latitude $42^{\circ} 55' N.$ and longitude $65^{\circ} 30' W.$ is about to enter the Gulf of Maine at 10 a. m. on a day when low water occurs at Boston at 7.40 a. m.; what is the direction and velocity of the current? On the diagram we find that station No. 2 is the one nearest to the location of the vessel. The time being $10.00 - 7.40 = 2.20$, or 2 hours after low water, on the horizontal line representing station No. 2 find a point $\frac{1}{4}$ the distance between the vertical lines indicating 2 hours and 3 hours after low water. The diagram shows that both the direction and the velocity of the current at this time are changing slowly, and consequently it will be sufficiently accurate to take the nearest numbers for the results. In this case the direction of the current is indicated by an azimuth of 116° , which being between 90° and 180° , is equivalent to N. ($180^{\circ} - 116^{\circ}$) W., or N. $64^{\circ} W.$, and the velocity is approximately 1.5 knots, the current being favorable to the vessel.

Example 2.—A vessel is in latitude $40^{\circ} 40' N.$ and longitude $68^{\circ} 55' W.$ at 2 p. m. on a day when high water occurs at Boston at 1 p. m.; what is the direction and velocity of the current? In this case No. 12 is the nearest station. By locating a point on the diagram on the line of station 12, for 1 hour after high water, we find that both the azimuth and velocity are here shifting more rapidly than near the times of strength of flood or ebb, the direction changing from 269° to 332° in about an hour. A rough interpolation gives us 290° , which being between 270° and 360° , is equivalent to S. ($360^{\circ} - 290^{\circ}$) E., or S. $70^{\circ} E.$, as the direction, and 0.5 knot as the velocity of the current at this time, but near the times of slack the directions and velocities are quite irregular.

TABLE 9.—CURRENTS.

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CURRENT DIAGRAM GEORGES BANK																													
NORTH LATITUDE. WEST LONGITUDE.		NUMBER OF STATION.	Hours before and after High and Low Water at Boston (Navy Yard), Mass.																										
			Before L.W.				After L.W.				Before H.W.				After H.W.				Before L.W.				After L.W.						
			3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .		
40° 37'	69° 37'	14	40	50	63	76	140	203	220	230	243	256	320	23	40	50	63	76	140	203									
			1.0	1.2	1.0	0.6	0.1	0.6	1.0	1.2	1.0	0.6	0.1	0.6	1.0	1.2	1.0	0.6	0.1	0.6									
40 38	69 10	13	13	23	36	49	113	176	193	203	216	229	233	358	13	23	36	49	113	176	193								
			1.2	1.4	1.2	0.7	0.2	0.7	1.2	1.4	1.2	0.7	0.2	0.7	1.2	1.4	1.2	0.7	0.2	0.7	1.2								
40 41	68 43	12	359	12	25	89	152	163	179	192	205	269	332	349	359	12	25	89	152	163									
			1.6	1.4	0.8	0.3	0.6	1.4	1.6	1.4	0.8	0.3	0.8	1.4	1.6	1.4	0.8	0.3	0.8	1.4									
40 47	68 18	11	353	6	19	83	146	163	173	186	199	263	326	343	353	6	19	83	146	163									
			1.7	1.5	0.9	0.4	0.9	1.5	1.7	1.5	0.9	0.4	0.9	1.5	1.7	1.5	0.9	0.4	0.9	1.5									
40 55	67 53	10	353	6	19	83	146	163	173	186	199	263	326	343	353	6	19	83	146	163									
			1.9	1.7	1.1	0.6	1.1	1.7	1.9	1.7	1.1	0.6	1.1	1.7	1.9	1.7	1.1	0.6	1.1	1.7									
41 04	67 30	9	359	12	25	89	152	169	179	192	205	269	332	349	359	12	25	89	152	169									
			2.1	1.9	1.3	0.8	1.3	1.9	2.1	1.9	1.3	0.8	1.3	1.9	2.1	1.9	1.3	0.8	1.3	1.9									
41 16	67 08	8	352	5	18	82	145	162	172	185	198	262	325	342	352	5	18	82	145	162									
			2.1	1.9	1.4	0.9	1.4	1.9	2.1	1.9	1.4	0.9	1.4	1.9	2.1	1.9	1.4	0.9	1.4	1.9									
41 29	66 47	7	342	335	83	72	135	152	162	175	188	242	315	332	342	335	83	72	135	152									
			2.0	1.9	1.4	0.9	1.4	1.9	2.0	1.9	1.4	0.9	1.4	1.9	2.0	1.9	1.4	0.9	1.4	1.9									
41 43	66 29	6	332	345	358	62	125	142	152	165	178	242	305	322	332	345	358	62	125	142									
			1.9	1.8	1.3	0.9	1.3	1.8	1.9	1.8	1.3	0.9	1.3	1.8	1.9	1.8	1.3	0.9	1.3	1.8									
41 58	66 12	5	336	349	33	115	133	143	156	169	233	296	319	323	336	349	33	115	133	143									
			1.7	1.2	0.8	1.2	1.7	1.8	1.7	1.2	0.8	1.2	1.7	1.8	1.7	1.2	0.8	1.2	1.7	1.8									
42 15	65 57	4	327	340	44	107	124	131	147	160	224	287	304	314	327	340	44	107	124	131									
			1.5	1.0	0.6	1.0	1.5	1.6	1.5	1.0	0.6	1.0	1.5	1.6	1.5	1.0	0.6	1.0	1.5	1.6									
42 32	65 45	3	318	331	35	98	115	125	138	151	215	278	295	305	318	331	35	98	115	125									
			1.4	0.9	0.5	0.9	1.4	1.6	1.4	0.9	0.5	0.9	1.4	1.6	1.4	0.9	0.5	0.9	1.4	1.6									
42 50	65 35	2	309	322	26	89	105	115	129	142	206	269	286	296	309	322	26	89	105	115									
			1.3	0.8	0.4	0.8	1.3	1.5	1.3	0.8	0.4	0.8	1.3	1.5	1.3	0.8	0.4	0.8	1.3	1.5									
43 07	65 27	1	300	313	17	80	97	107	120	133	197	260	277	287	300	313	17	80	97	107									
			1.2	0.8	0.3	0.8	1.2	1.4	1.2	0.8	0.3	0.8	1.2	1.4	1.2	0.8	0.3	0.8	1.2	1.4									
			3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .	2 ^h .	1 ^h .	0 ^h .	1 ^h .	2 ^h .	3 ^h .								

TABLE 9.—CURRENTS.

HIGH WATER.							LOW WATER.						
Hours before.			Hours after.				Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Portsmouth Harbor, referred to time of tide at Portland, Maine. See pp. 65-68.</i>													
Station (1) Outer entrance to harbor, 0.3 mile S. 77° W. from Whaleback Light.													
N 5° W	N 4° W	N 3° W	N 2° W	N 1° W	N	S 12° W	S 12° W	S 14° W	S 15° W	S 16° W	S 17° W	S 18° W	N 5° W
0.2	0.8	1.0	0.8	0.5	0.1	0.4	0.7	1.4	1.4	1.1	0.8	0.4	0.1
Station (2) In mid-channel 0.2 mile S. 78° E. from Portsmouth Harbor Light.													
N 28° W	N 20° W	N 12° W	N 6° W	N 2° W	N 7° W	S	S 2° E	S 11° E	S 18° E	S 17° E	S 7° W	S 3° W	N 32° W
0.3	0.8	1.1	1.1	0.8	0.1	0.5	0.7	1.8	1.4	1.1	0.7	0.1	0.2
Station (3) In mid-channel 0.3 mile N. 5° W. from Portsmouth Harbor Light.													
W	N 79° W	N 63° W	N 53° W	N 45° W	. . .	S 72° E	S 70° E	S 65° E	S 66° E	S 74° E	S 85° E	N 83° E	S 85° W
0.6	1.5	1.9	1.7	1.0	0.0	1.1	1.3	2.2	2.7	2.4	1.4	0.6	0.3
Station (4) About 0.4 mile N. 25° W. from Portsmouth Harbor Light.													
S 71° W	S 77° W	S 83° W	S 89° W	N 86° W	N 80° W	N 55° E	N 57° E	N 64° E	N 69° E	N 69° E	N 65° E	N 56° E	S 70° W
0.6	1.4	1.6	1.4	1.0	0.4	0.2	0.3	0.6	0.9	1.1	1.1	0.6	0.2
Station (5) In mid-channel south from Clark Island.													
S 88° W	S 86° W	S 84° W	S 83° W	S 81° W	S 79° W	N 81° E	N 82° E	N 84° E	N 84° E	N 83° E	N 79° E	N 73° E	S 69° W
1.0	1.7	1.7	1.4	1.0	0.4	0.7	1.1	2.4	2.3	1.7	1.0	0.4	0.6
Station (6) In mid-channel off Goat Island Ledge buoy.													
S 88° W	S 87° W	S 86° W	S 85° W	S 84° W	S 83° W	N 88° E	N 86° E	N 87° E	N 86° E	N 85° E	N 84° E	N 83° E	S 88° W
1.3	2.0	2.0	1.5	1.0	0.4	0.7	1.1	2.2	2.4	1.9	1.1	0.3	1.0
Station (7) About 0.2 mile south from Portsmouth Navy-Yard.													
N 43° W	N 45° W	N 48° W	N 55° W	N 52° W	N 55° W	S 56° E	S 54° E	S 49° E	S 46° E	S 43° E	S 44° E	S 45° E	N 42° W
1.8	2.9	3.1	2.9	2.0	0.9	0.5	0.9	1.9	2.8	2.6	1.8	0.6	1.5

TABLE 9.—CURRENTS.

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HIGH WATER.							LOW WATER.						
Hours before.			Hours after.				Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Boston Harbor, referred to time of tide at Boston, Mass. See pp. 69-72.</i>													
Station (1) South Channel, 1.2 miles N. 85° E. from Deer Island Light.													
S 75° W	S 76° W	S 76° W	S 77° W	N 59° E	N 61° E	N 63° E	N 63° E	N 64° E	N 64° E	N 65° E	S 70° W	S 75° W	S 75° W
1.5	1.3	0.9	0.1	0.8	1.5	1.8	1.8	1.8	1.4	0.1	0.9	1.4	1.5
Station (2) North Channel, 1.5 miles N. 63° E. from Deer Island Light.													
S 37° W	S 42° W	S 46° W	S 50° W	N 57° E	N 49° E	N 47° E	N 47° E	N 52° E	N 63° E	N 81° E	S 30° W	S 33° W	S 36° W
0.9	0.8	0.6	0.3	0.4	0.7	0.9	0.9	0.8	0.5	0.1	0.5	0.7	0.9
Station (3) Broad Sound, 1.0 mile N. 57° W. from Green Island.													
S 49° W	S 57° W	S 64° W	S 72° W	N 5° E	N 15° E	N 19° E	N 19° E	N 15° E	N 5° E	S 24° W	S 32° W	S 40° W	S 48° W
0.8	0.6	0.3	0.1	0.4	0.6	0.5	0.5	0.3	0.1	0.4	0.6	0.8	0.9
Station (4) Broad Sound, 0.8 mile S. 71° E. from Winthrop Head.													
S 26° W	S 33° W	S 42° W	N 8° E	N 22° E	N 31° E	N 49° E	N 41° E	N 48° E	N 58° E	S 43° W	S 29° W	S 20° W	S 22° W
0.7	0.4	0.1	0.1	0.3	0.4	0.5	0.5	0.4	0.2	0.1	0.4	0.6	0.7
Station (5) Broad Sound, 1.5 miles N. 60° E. from Winthrop Head.													
S 13° W	S 10° W	S 3° E	S 70° E	S 86° E	N 80° E	N 78° E	N 72° E	S 82° E	S 16° E	S 4° E	S 6° W	S 13° W	
0.4	0.4	0.3	0.0	0.2	0.3	0.4	0.4	0.2	0.1	0.1	0.2	0.3	0.4
Station (6) Broad Sound, near Lynn Harbor, 0.4 mile N. 86° W. from Bass Point.													
N 31° W	N 22° W	N 9° W	S 74° E	S 74° E	S 69° E	S 60° E	S 58° E	S 51° E	S 42° E	N 66° W	N 56° W	N 43° W	N 33° W
0.4	0.3	0.1	0.1	0.2	0.3	0.4	0.4	0.3	0.1	0.2	0.4	0.5	0.4
Station (7) Broad Sound, 0.5 mile S. 27° E. from East Point, Nahant.													
S 87° W	S 88° W	S 85° W	N 75° E	N 69° E	N 58° E	N 53° E	N 53° E	N 53° E	N 68° E	S 67° W	S 72° W	S 81° W	S 85° W
0.3	0.2	0.1	0.1	0.2	0.4	0.4	0.4	0.3	0.1	0.2	0.4	0.4	0.3
Station (8) Broad Sound, 1.2 miles N. 27° W. from The Graves.													
S 73° W	S 64° W	S 16° W	N 89° E	N 76° E	N 66° E	N 63° E	N 62° E	N 63° E	N 67° E	N 89° E	S 60° W	S 69° W	S 73° W
0.4	0.3	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.1	0.2	0.3	0.4
Station (9) Broad Sound, 0.2 mile N. 15° E. from Green Island.													
S 85° W	S 77° W	S 65° W	S 76° E	S 88° E	N 81° E	N 69° E	N 65° E	N 50° E	N 33° E	N 89° W	N 88° W	W	S 86° W
0.7	0.6	0.2	0.2	0.5	0.8	0.8	0.7	0.5	0.1	0.1	0.4	0.6	0.7
Station (10) Hypocrite Channel, 0.6 mile N. from east end of Outer Brewster.													
S 39° W	S 42° W	S 45° W	N 60° E	N 59° E	N 59° E	N 60° E	N 60° E	N 62° E	N 65° E	S 60° W	S 55° W	S 43° W	S 39° W
1.1	0.8	0.4	0.1	0.6	1.0	1.1	1.1	0.8	0.3	0.1	0.6	1.0	1.1
Station (11) Hypocrite Channel, 0.6 mile N. 35° E. from east end of Outer Brewster.													
S 48° W	S 52° W	S 56° W	S 78° E	S 72° E	S 68° E	S 65° E	S 65° E	S 67° E	S 70° E	S 73° E	S 26° W	S 38° W	S 46° W
0.4	0.4	0.2	0.1	0.3	0.4	0.4	0.4	0.4	0.4	0.1	0.2	0.4	0.4

TABLE 9.—CURRENTS.

HIGH WATER.							LOW WATER.						
Hours before.			Hours after.				Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Boston Harbor, referred to time of tide at Boston, Mass.—Continued.</i>													
Station (12) Hypocrite Channel, 0.2 mile W. from west end of Outer Brewster.													
S 67° W	S 82° W	N 83° W	N 80° E	N 26° E	N 9° W	N 18° W	N 20° W	N 21° W	. . .	N 76° W	S 72° W	S 61° W	S 63° W
0.5	0.3	0.1	0.2	0.3	0.3	0.3	0.3	0.1	0.0	0.3	0.4	0.5	0.5
Station (13) Hypocrite Channel, 0.1 mile N. 30° W. from Little Calf Island.													
S 78° W	S 82° W	S 80° W	N 52° E	N 58° E	N 61° E	N 60° E	N 59° E	N 52° E	N 41° E	S 66° W	S 70° W	S 73° W	S 77° W
0.9	0.7	0.4	0.4	1.0	1.2	1.1	1.0	0.7	0.3	0.1	0.7	0.9	0.9
Station (14) Hypocrite Channel, 0.2 mile W. from north end of Calf Island.													
S 82° W	S 28° W	S 24° W	N 38° E	N 29° E	N 26° E	N 28° E	N 29° E	N 36° E	N 40° E	S 57° W	S 48° W	S 40° W	S 35° W
0.9	0.8	0.5	0.1	0.5	0.6	0.6	0.6	0.5	0.3	0.2	0.7	0.9	0.9
Station (15) Midway between Calf and Great Brewster Islands.													
S 63° W	S 66° W	S 73° W	N 76° E	N 74° E	N 72° E	N 70° E	N 69° E	N 67° E	N 65° E	S 77° W	S 67° W	S 64° W	S 63° W
1.1	0.9	0.3	0.7	0.9	0.9	0.8	0.8	0.6	0.1	0.4	0.9	1.1	1.1
Station (16) East of Great Brewster Island, 0.5 mile N. 44° E. from Boston Light.													
S 66° W	S 70° W	S 73° W	N 37° E	N 60° E	E	S 73° E	S 69° E	S 58° E	. . .	S 53° W	S 57° W	S 61° W	S 65° W
0.6	0.5	0.2	0.1	0.4	0.4	0.3	0.3	0.1	0.0	0.2	0.4	0.5	0.5
Station (17) Black Rock Channel, 0.1 mile N. 25° W. from Narrows Light.													
S 33° W	S 30° W	S 29° W	N 44° E	N 49° E	N 53° E	N 58° E	N 59° E	N 62° E	N 64° E	S 85° W	S 45° W	S 39° W	S 34° W
1.3	1.0	0.3	0.1	0.6	0.8	0.9	0.9	0.8	0.5	0.1	0.6	1.1	1.3

TABLE 9.—CURRENTS.

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HIGH WATER.							LOW WATER.						
Hours before.				Hours after.			Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations off Chatham Lights, referred to time of tide at Boston, Mass. See pp. 69-72.</i>													
Station (1) About 8.5 miles N. 87° E. from Chatham Lights.													
N 4° W	S 30° W	S 17° W	S 10° W	S 9° W	S 13° W	S 15° W	S 18° W	S 22° W	N 28° E	N 24° E	N 14° E	N 5° E	N 4° W
0.2	0.2	0.6	0.8	0.9	0.8	0.6	0.5	0.2	0.1	0.3	0.4	0.3	0.2
Station (2) About 3.6 miles N. 87° E. from Chatham Lights.													
N 30° W	S 40° W	S 35° W	S 30° W	S 20° W	S 6° W	. . .	N 33° E	N 24° E	N 10° E	N	N 15° W	N 22° W	N 29° W
0.2	0.6	0.9	0.7	0.4	0.1	0.0	0.1	0.4	0.7	0.9	1.0	0.7	0.3
Station (3) About 4.9 miles S. 54° E. from Chatham Lights.													
N 7° E	S 16° W	S 11° W	S 5° W	S 9° W	S 16° W	. . .	. . .	N 12° E	N 11° E	N 10° E	N 9° E	N 8° E	N 7° E
0.1	0.3	0.9	1.2	1.0	0.4	0.0	0.0	0.2	0.7	1.0	0.9	0.5	0.2

It will be seen that at the station (1), 8½ miles off Chatham Lights, the southward flow of current greatly exceeds the northward. This seems to be a characteristic of the offshore currents east of Cape Cod Peninsula, for the same phenomenon exists 5 miles east of Cape Cod Light and 7 miles east of Nauset Three Lights. The above table shows that off Chatham the dividing line between the inshore and the offshore currents lies somewhere between 4 and 8 miles from the shore.

Explanation of Current Diagram, Boston Harbor.

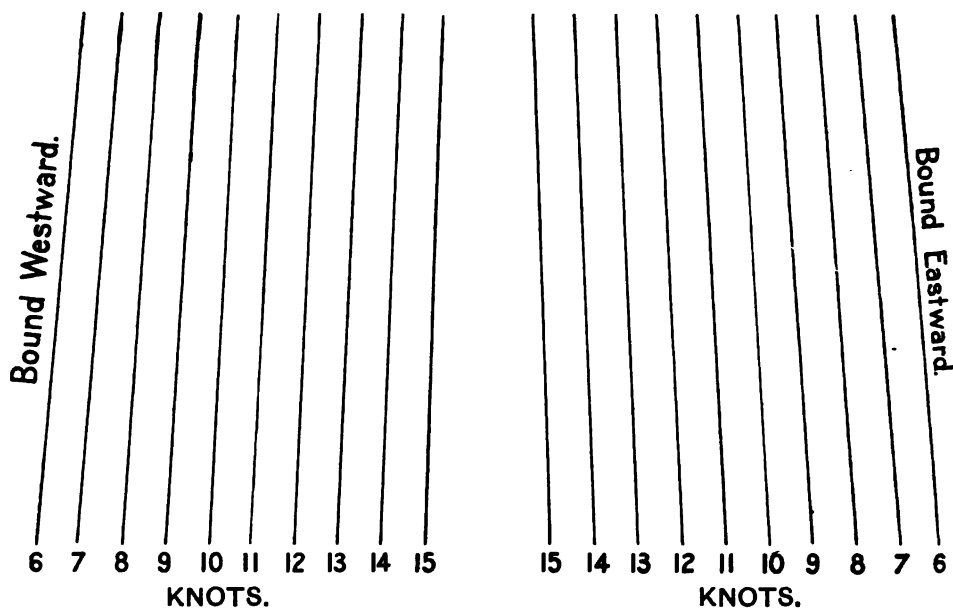
The diagram represents only average conditions of the surface currents along the middle of the channel from the Boston Light Ship to the Navy-Yard, the scale being too small to show details.

On the diagram westerly streams are designated as "Flood" currents and easterly streams as "Ebb" currents. The small figures on the surface of the diagram denote the velocity of the current in knots and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence the actual course on the diagram will become more nearly vertical with favorable and less vertical with unfavorable currents.

SPEED LINES.

Boston Harbor.



Example.—A vessel leaving the Navy-Yard desires to pass out of Boston Harbor on the morning of a day when low water at the Navy-Yard occurs at 1 h. 03 m. a. m. and high water at 7 h. 07 m. a. m. Her speed being 10 knots, at what time should she get under way so as to carry a favorable current all the way to Boston Light Ship, and what will be the state of the tide?

An inspection of the diagram on the opposite page shows that the most favorable time for leaving the Navy-Yard is about three hours after high water, which is given as occurring at 7 h. 07 m. a. m.; hence, if the vessel leaves the Navy-Yard about 10 a. m. on that day she will have a favorable current averaging about 1.6 knots and a falling tide all the way to the Light Ship.

A vessel entering the harbor and passing Boston Light Ship about three hours before high water at the Navy-Yard will have a favorable current averaging about 1.6 knots and a rising tide all the way to the Navy-Yard.

TABLE 9.—CURRENTS.

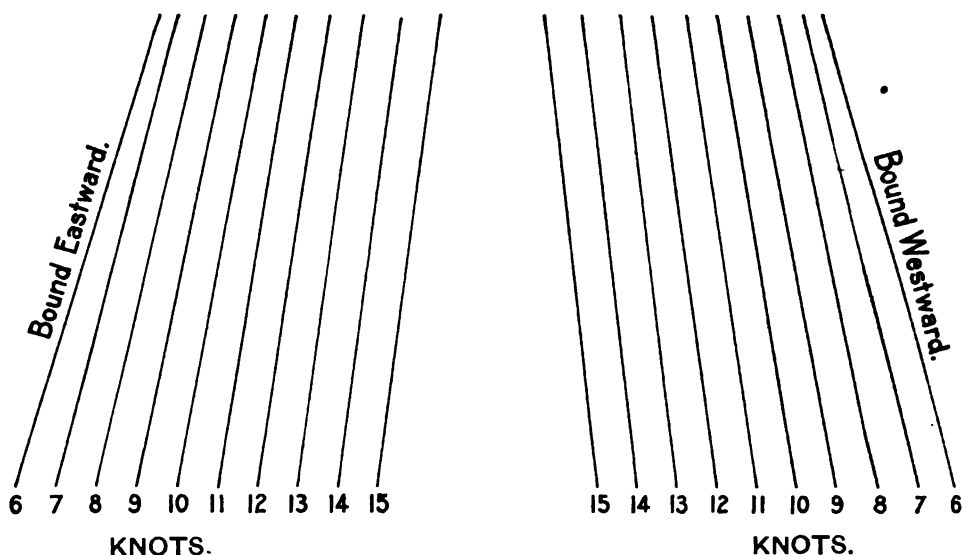
		CURRENT DIAGRAM BOSTON HARBOR																								
		Hours before and after High and Low Water at Boston (Navy Yard) Mass.																								
		Before L.W.						After L.W.						Before H.W.						After H.W.						
		3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h
NAUTICAL MILES		FALLING TIDE												RISING TIDE												
		10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09	10	11	12	13	
	Navy Yard	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09
		15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09
		15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09
	Bird I. Flats Spindle	13	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09
	Governors Island	13	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08	09
	Castle Island	12	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07	08
		12	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
	Spectacle I. Lt.	11	18	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06
		11	21	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03
		11	21	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03
	Deer Island Lt.	10	24	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
		10	26	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02
	Nix Mate Bell Buoy	9	26	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02
		9	23	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	00
		9	23	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	00
	Narrows Lt.	8	20	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05
		8	18	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06
		8	18	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06
	Boston Light	6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01	02	03	04	05	06	07
		6	17	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	01						

Explanation of Current Diagram, Nantucket and Vineyard Sounds.

The diagram represents only average conditions of the surface currents along the middle of the channel from Pollock Rip Slue to Gay Head Light, the scale being too small to show details.

On the diagram westerly streams are designated as "Flood" currents and easterly streams as "Ebb" currents. The small figures on the face of the diagram denote the velocity of the current in knots, and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence the actual course on the diagram will become more nearly vertical with favorable and less vertical with contrary currents.

SPEED LINES.**Nantucket and Vineyard Sounds.**

In the case of a vessel running about 12 knots, the most favorable time to enter the Sounds by way of Pollock Rip Slue is about the time of high water at Boston Navy-Yard, which may be found for a given date from the predictions given in these tables.

Inspection of the diagram on the opposite page shows that she will then carry a favorable current, averaging about 1.6 knots all the way to Gay Head. The tide will be falling to Nobska Point, and thence to Gay Head rising.

A vessel eastward bound through the Sounds can carry a favorable current only part of the way.

To obtain the most favorable conditions from Gay Head to Pollock Rip Slue, the diagram shows that the vessel should pass Gay Head about one hour after low water at Boston. She will then have a favorable current, averaging about 1.0 knot, to the Handkerchief Light-Ship, and a contrary current, averaging about 0.6 knot, the remainder of the distance. The tide will be rising all the way.

TABLE 9.—CURRENTS.

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CURRENT DIAGRAM																																					
NANTUCKET AND VINEYARD SOUNDS																																					
NAUTICAL MILES		Hours before and after High and Low Water at Boston (Navy Yard) Mass.																																			
		Before L.W.						After L.W.						Before H.W.						After H.W.						Before L.W.						After L.W.					
		3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h					
Bell Buoy	50	0.0	0.6	1.0	1.2	1.0	0.6	0.0	0.7	1.2	1.4	1.2	0.7	0.0	0.6	1.0	1.2	1.0	0.6	0.0	0.7	1.2	1.4	1.2	0.7	0.0	0.6	1.0	1.2	1.0	0.6	0.0					
Pollock Rip Lt. Ship	48	0.9	0.0	0.0	1.3	1.5	1.3	0.0	0.0	0.9	1.6	1.5	0.9	0.0	0.0	1.3	1.5	1.3	0.0	0.0	0.9	1.6	1.5	0.9	0.0	0.0	1.3	1.5	1.3	0.0	0.0	0.9					
	46	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.7	1.0	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.7	1.0	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1					
Shovelful Lt. Ship	44	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.7	1.0	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.7	1.0	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1					
	42	1.0	0.0	0.8	1.3	1.5	1.3	0.0	0.0	1.0	1.6	1.5	0.9	0.0	0.8	1.3	1.5	1.3	0.0	0.0	1.0	1.6	1.5	0.9	0.0	0.8	1.3	1.5	1.3	0.0	0.0	1.0					
Handkerchief Lt. Ship	40	0.0	0.0	0.7	1.2	1.3	1.2	0.7	0.0	0.0	1.3	1.3	0.0	0.0	0.7	1.2	1.3	1.2	0.7	0.0	0.0	1.3	1.3	0.0	0.0	0.7	1.2	1.3	1.2	0.7	0.0	0.0					
	38	0.7	0.0	0.6	1.0	1.1	1.0	0.6	0.0	0.7	1.3	1.1	0.7	0.0	0.6	1.0	1.1	1.0	0.6	0.0	0.7	1.3	1.1	0.7	0.0	0.6	1.0	1.1	1.0	0.6	0.0	0.7					
	36	1.0	0.6	1.0	0.5	0.8	0.9	0.8	0.5	0.0	0.6	1.0	1.0	0.6	1.0	0.5	0.8	0.9	0.8	0.5	0.0	0.6	1.0	1.0	0.6	1.0	0.5	0.8	0.9	0.8	0.5	0.0					
	34	1.0	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8					
	32	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9					
	30	1.0	1.0	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9					
Crass Rip Lt. Ship	28	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9	0.8	0.5	0.0	0.9	0.9	1.0	0.9	0.5	0.0	0.5	0.8	0.9					
	26	1.1	1.0	0.5	0.0	0.5	0.9	1.0	0.9	0.5	0.0	0.6	1.0	1.0	0.6	1.0	0.5	0.0	0.5	0.9	1.0	0.9	0.5	0.0	0.6	1.0	1.0	0.6	1.0	0.5	0.0	0.5					
	24	1.2	1.0	0.6	0.0	0.6	1.0	1.1	1.0	0.6	0.0	0.6	1.0	1.0	0.6	0.0	0.6	1.0	1.1	1.0	0.6	0.0	0.6	1.0	1.0	0.6	0.0	0.6	1.0	1.1	1.0	0.6					
Cape Poge Lt.	22	1.3	1.1	0.7	0.0	0.6	1.0	1.2	1.0	0.6	0.0	0.7	1.1	1.1	0.7	0.0	0.6	1.0	1.2	1.0	0.6	0.0	0.7	1.1	1.1	0.7	0.0	0.6	1.0	1.2	1.0	0.6					
	20	1.5	1.3	0.8	0.0	0.7	1.1	1.3	1.1	0.7	0.0	0.8	1.3	1.3	0.8	0.0	0.7	1.1	1.3	1.1	0.7	0.0	0.8	1.3	1.3	0.8	0.0	0.7	1.1	1.3	1.1	0.7					
	18	1.7	1.5	0.9	0.0	0.8	1.3	1.5	1.3	0.8	0.0	0.9	1.5	1.5	0.9	0.0	0.8	1.3	1.5	1.3	0.8	0.0	0.9	1.5	1.5	0.9	0.0	0.8	1.3	1.5	1.3	0.8					
East Chop Lt.	16	2.1	1.8	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.8	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.8	1.8	1.1	0.0	0.9	1.5	1.7	1.5	0.9					
West Chop Lt.	14	2.4	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0	0.0	1.2	2.1	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0	0.0	1.2	2.1	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0					
Nobska Pt. Lt.	12	2.6	2.3	1.3	0.0	1.1	1.8	2.1	1.8	1.1	0.0	1.3	2.3	2.3	1.3	0.0	1.1	1.8	2.1	1.8	1.1	0.0	1.3	2.3	2.3	1.3	0.0	1.1	1.8	2.1	1.8	1.1					
	10	2.5	2.2	1.2	0.0	1.0	1.7	2.0	1.7	1.0	0.0	1.2	2.2	2.2	1.2	0.0	1.0	1.7	2.0	1.7	1.0	0.0	1.2	2.2	2.2	1.2	0.0	1.0	1.7	2.0	1.7	1.0					
Tarpaulin Cove Lt.	8	2.4	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0	0.0	1.2	2.1	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0	0.0	1.2	2.1	2.1	1.2	0.0	1.0	1.6	1.9	1.6	1.0					
	6	2.2	1.9	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.9	1.9	1.1	0.0	0.9	1.5	1.7	1.5	0.9	0.0	1.1	1.9	1.9	1.1	0.0	0.9	1.5	1.7	1.5	0.9					
	4	1.9	1.6	1.0	0.0	0.8	1.3	1.5	1.3	0.8	0.0	1.0	1.6	1.6	1.0	0.0	0.8	1.3	1.5	1.3	0.8	0.0	1.0	1.6	1.6	1.0	0.0	0.8	1.3	1.5	1.3	0.8					
	2	1.6	1.4	0.8	0.0	0.7	1.1	1.3	1.1	0.7	0.0	0.8	1.4	1.4	0.8	0.0	0.7	1.1	1.3	1.1	0.7	0.0	0.8	1.4	1.4	0.8	0.0	0.7	1.1	1.3	1.1	0.7					
Gay Head Lt.	0	1.3	1.1	0.7	0.0	0.6	1.0	1.0	0.6	0.0	0.7	1.1	1.1	0.7	0.0	0.6	1.0	1.0	0.6	0.0	0.7	1.1	1.1	0.7	0.0	0.6	1.0	1.0	0.6	0.0	0.7	1.1					
		3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h	2 ^h	1 ^h	0 ^h	1 ^h	2 ^h	3 ^h					

Block Island Sound.—Between Point Judith and Block Island the strength of the flood or westerly current is about 1.8 knots, and the strength of the ebb or easterly current somewhat greater.

Between Block Island and Montauk Point the flood or northwesterly current is about 1.2 knots in the middle of the passage, and nearly 2 knots off Montauk Point, while the ebb or southeasterly current is nearly 2 knots across the passage.

About two miles north of Fort Pond Bay the current is about three-quarters of a knot in an easterly and westerly direction.

About a mile north of Cerberus Shoal Whistle the flood or westerly current is 1.4 knots, and the ebb current is 1.7 knots at its strength.

About two miles southeast from Watch Hill Point Light the strength of the flood is about 1.2 knots, and that of the ebb is about 1.0 knot.

The flood and ebb streams are about equal to one another half a mile to the northwest of Watch Hill Reef Spindle, and are 1.2 knots at their strength.

Long Island Sound.—All along the axis of the Sound from The Race to Eatons Point ebb begins about two hours twenty minutes after high water, and flood begins about three hours after low water at New London, Conn. Farther west these intervals gradually increase, but become very uncertain.

At the eastern end of the Sound the currents turn about an hour earlier along the shore than along a line midway between the shores.

HIGH WATER.							LOW WATER.						
Hours before.			Hours after.				Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Long Island Sound, referred to time of tide at New London, Conn. See pp. 77-80.</i>													
Station (1) Long Island Sound, 4 miles S. from the mouth of the Connecticut River.													
N 73° W	S 85° W	S 65° W	S 60° W	S 75° W	. . .	N 55° E	N 51° E	N 46° E	N 48° E	N 53° E	N 60° E	N 67° E	N 75° W
0.4	1.0	1.5	1.6	1.2	0.0	1.1	1.6	2.1	2.4	2.4	1.6	0.5	0.2
Station (2) Long Island Sound, 8 miles S. from the Thimbles.													
W	S 85° W	S 78° W	S 70° W	S 62° W	S 64° W	N 50° E	N 51° E	N 53° E	N 55° E	N 57° E	N 59° E	N 61° E	N 68° W
0.1	0.7	1.2	1.5	1.0	0.2	0.1	0.4	0.9	1.2	1.0	0.7	0.3	0.1

In The Race the velocity at strength of ebb is 3.0 knots and of flood 2.5 knots. Going westward along the axis of the Sound these velocities gradually diminish until south of New Haven, where they are 1.1 and 1.0 knots, respectively. Going farther west they increase slightly until north of Eatons Point, where they are 1.3 and 1.4 knots, respectively. Still continuing westward, the velocities again diminish until between Rye Neck and Matinecock Point, where the ebb and the flood are not distinct and the velocity of either is 0.5 knot. Westward the velocities increase slightly, and off Pelham Bay are 0.9 knot for ebb and 0.7 knot for flood.

East River, N. Y.—The currents at different points along the East River are greatly modified by local conditions.

Off Old Ferry Point the slack before ebb lasts about twenty minutes and the slack before flood about eighteen minutes. The currents are quite irregular in this region.

Between Lawrence Point and Middle Ground slack water usually lasts less than ten minutes. The current flows directly along the channel.

Off Polhemus Dock slack water usually lasts from five to ten minutes. The currents follow the channel. Close to Polhemus Dock, within 200 feet, eddy currents are often found.

Between Wards Island and Ringgold's Dock slack water lasts twenty-five minutes.

Between Hallets Point and Hogs Back 8 knots have been measured on the flood; but elsewhere between Lawrence Point and Blackwells Island 3 and 4 knots at strength of ebb and flood are characteristic.

Between Hallets Point and Flood Rock the most rapid current on the ebb is very close to Flood Rock; the currents are direct and strong, with comparatively few eddies.

Off Hallets Point both ebb and flood set directly toward the Frying Pan Shoal. The flood current (setting to the eastward) sweeps close around Hallets Point and makes less eddy in the cove to the eastward than is found there on the ebb.

Between Great Mill Rock and Wards Island the flood current has numerous though not violent eddies. The slack water is of only a few minutes' duration. The main stream passes to the southward of Flood Rock.

There are strong eddies off Blackwells Island Light-House and off Hatter's Dock (the northern point of entrance to Hallets Cove).

In Blackwells Island Western Channel slack water usually lasts less than ten minutes. The currents follow the channel, and turn at nearly the same time throughout its length.

In Blackwells Island Eastern Channel slack water usually lasts less than five minutes. The current generally begins to follow the channel within thirty minutes of its slack. It has at no time any considerable velocity crosswise the channel. On the Blackwells Island side the current is about the same as in the channel, even to within a few feet of the sea wall. Both on the ebb and flood there is little current in the vicinity of the sea wall on the Long Island side. The currents turn at nearly the same time throughout the length of this channel.

Off East Twenty-third street slack water lasts from four to eight minutes. The strength of the ebb is nearly 3 knots.

HIGH WATER.							LOW WATER.						
Hours before.			Hours after.				Hours before.			Hours after.			
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Arthur Kill, referred to time of tide at Sandy Hook, New Jersey. See pp. 89-92.</i>													
Station (1) Off Tottenville, Staten Island.													
N 45° E	N 45° E	N 45° E	N 45° E	S 45° W	S 45° W	S 45° W	S 45° W	S 45° W	S 45° W	S 45° W	N 45° E	N 45° E	N 45° E
0.9	1.0	1.1	0.9	0.4	0.7	1.2	1.2	1.1	0.9	0.5	0.3	0.5	0.7
Station (2) Off Rossville, Staten Island.													
N 45° E	N 45° E	N 45° E	N 45° E	. . .	S 45° W	S 45° W	S 45° W	S 45° W	S 45° W	S 45° W	N 45° E	N 45° E	N 45° E
0.5	0.5	0.4	0.2	0.0	0.2	0.5	0.5	0.5	0.4	0.1	0.2	0.4	0.5
Station (3) Off Island View, New Jersey.													
N 20° E	N 20° E	N 20° E	N 20° E	N 20° E	S 20° W	S 20° W	S 20° W	S 20° W	S 20° W	S 20° W	. . .	N 20° E	N 20° E
0.8	0.8	0.8	0.6	0.2	0.1	0.6	0.7	0.9	0.9	0.5	0.0	0.3	0.7
Station (4) About 0.4 mile N. 5° W. from Pralls Island.													
N 10° W	N 10° W	N 10° W	N 10° W	N 10° W	N 10° W	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	N 10° W
1.0	1.6	1.5	1.3	0.9	0.2	0.5	0.5	0.8	1.0	1.1	0.9	0.5	1.0

TABLE 9.—CURRENTS.

HIGH WATER.							LOW WATER.						
Hours before.				Hours after.			Hours before.				Hours after.		
3	2	1	0	1	2	3	3	2	1	0	1	2	3
<i>Current stations in Newark Bay, referred to time of tide at New York, N. Y. See pp. 85-88.</i>													
Station (1) Off the mouth of Elizabethport Creek, New Jersey.													
N 36° E	N 36° E	N 36° E	N 36° E	N 36° E	S 36° W	S 36° W	S 36° W	S 36° W	S 36° W	S 36° W	S 36° W	. . .	N 36° E
1.1	1.5	1.7	1.5	0.7	0.2	1.0	1.0	1.3	1.3	1.1	0.7	0.0	0.7
Station (2) About 0.2 mile W. from Corner Stake Light.													
N 85° E	N 85° E	N 85° E	N 85° E	N 85° E	S 85° W	S 85° W	S 85° W	S 85° W	S 85° W	S 85° W	S 85° W	N 85° E	N 85° E
1.1	1.2	1.2	0.8	0.4	0.2	0.8	0.8	1.0	0.9	0.7	0.3	0.4	1.0
Station (3) About 0.4 mile N. 28° E. from Corner Stake Light.													
N 10° W	N 10° W	N 10° W	N 10° W	N 10° W	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	S 10° E	. . .	N 10° W
0.5	0.7	0.7	0.4	0.1	0.1	0.4	0.4	0.6	0.6	0.4	0.2	0.0	0.2
Station (4) Off Newark, N. J., 0.1 mile below railroad bridge at outlet of Morris Canal.													
N 45° W	N 45° W	N 45° W	N 45° W	N 45° W	S 45° E	S 45° E	S 45° E	S 45° E	S 45° E	S 45° E	S 45° E	S 45° E	N 45° W
0.6	0.8	0.8	0.6	0.1	0.2	0.6	0.6	0.8	0.8	0.7	0.5	0.1	0.5
<i>Current stations in Kill van Kull, referred to time of tide at New York, N. Y. See pp. 85-88.</i>													
Station (1) About 0.1 mile S. from Bergen Point, New Jersey.													
N 75° W	N 75° W	N 75° W	N 75° W	. . .	S 75° E	S 75° E	S 75° E	S 75° E	S 75° E	S 75° E	S 75° E	N 75° W	N 75° W
1.8	1.7	1.1	0.6	0.0	0.7	1.5	1.5	2.0	1.7	1.0	0.2	0.8	1.7
Station (2) Off Port Richmond, Staten Island.													
S 80° W	S 80° W	S 80° W	S 80° W	N 80° E	N 80° E	N 80° E	N 80° E	N 80° E	N 80° E	N 80° E	. . .	S 80° W	S 80° W
1.8	1.8	1.5	0.8	0.3	1.6	2.1	2.1	2.2	1.6	0.9	0.0	1.2	1.7
Station (3) Off New Brighton, Staten Island.													
W	W	W	E	E	E	E	E	E	E	E	W	W	W
0.6	0.4	0.2	0.2	0.6	0.9	1.0	1.0	0.8	0.6	0.2	0.2	0.5	0.6

The currents in Arthur Kill and Kill van Kull generally follow the direction of the channel.

Hudson River, N. Y.—In the path of the Hudson, from the Narrows to the Tappan Sea, it is running flood 15 feet below the surface fully an hour before the turning from ebb to flood at the surface. Slack before ebb lasts from forty to fifty-five minutes. Slack before flood lasts about thirty-five minutes.

The Narrows.—Slack water lasts from fifteen to thirty minutes. Both the ebb and flood currents appear first on the east side.

Near West Side of East Bank.—There is usually a slack before the flood current lasting about ten minutes.

Channels in New York Lower Bay.—In the Fourteen Feet Channel both the ebb and flood currents set obliquely across the channel. In the East, Swash, Main, and Gedney channels slack water lasts about twenty-five minutes. The half-ebb currents in the Swash Channel set to the eastward strongly. In the Main and Swash channels the flood current starts in on their north side thirty minutes earlier than on the south side, and the ebb current starts out on the south side of the channel thirty minutes earlier than on the north side.

Explanation of Current Diagram of East River, New York.

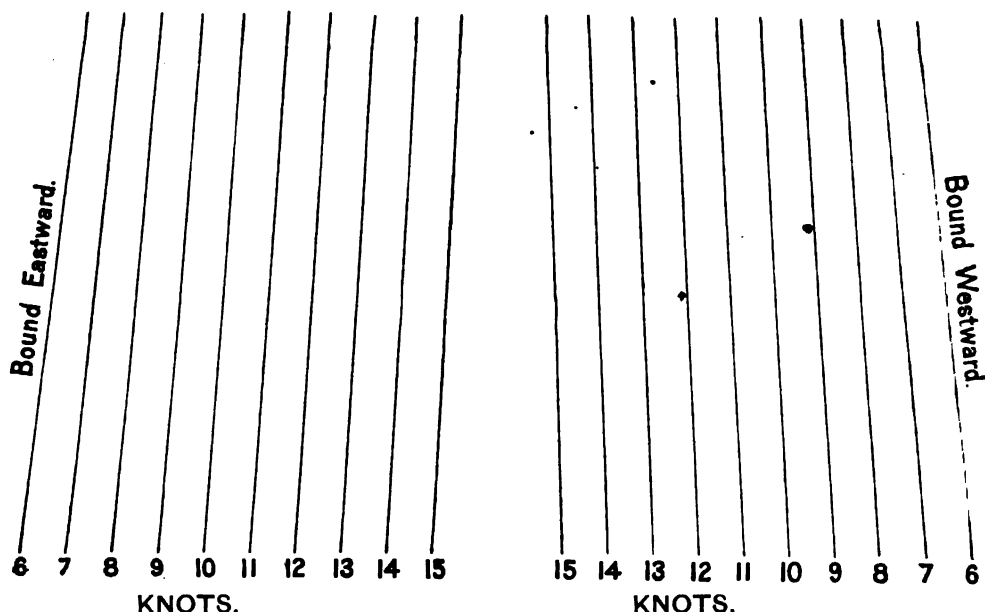
The diagram represents only average conditions of the surface currents along the middle of the channel between Governors Island and Execution Rocks, the scale being too small to show details. Between Halletts Point and Hogs Back a velocity of 8 knots has been observed, although the usual current is much less. Eddies, of more or less violence, occur in numerous localities in the East River, but as a general rule the currents follow the channels.

On the diagram east streams are designated as "Flood" currents and west streams as "Ebb" currents. The small figures on the surface of the diagram denote the velocity of the current in knots and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence the actual course on the diagram will become more nearly vertical with favorable and less vertical with contrary currents.

SPEED LINES.

East River, New York.



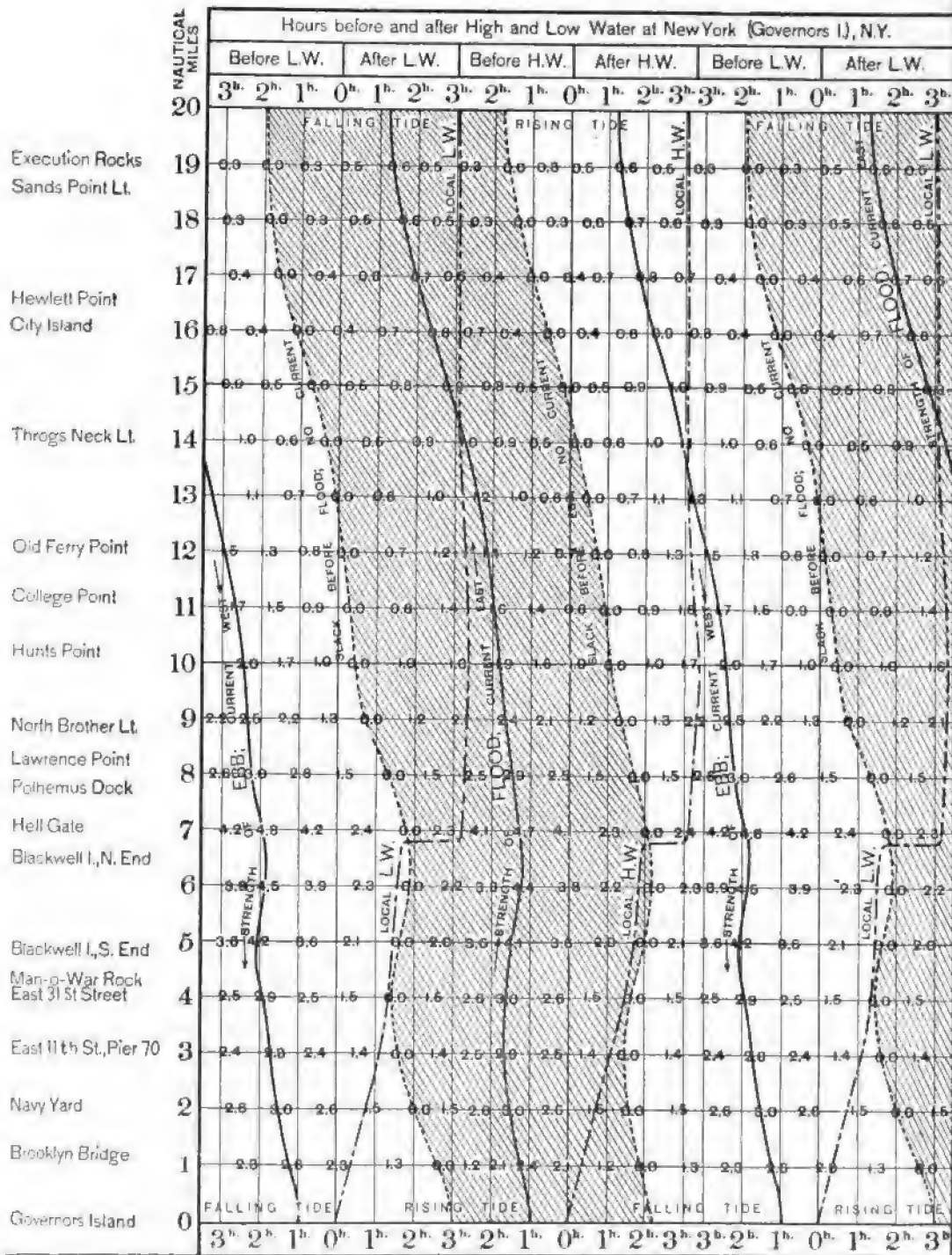
Example.—A vessel at anchor in New York Harbor desires to pass through the East River in the afternoon of a day when high water at Governors Island occurs at 5h. 04m. p. m. and low water at 11h. 20m. p. m. Her speed being 12 knots, at what time should she get under way so as to carry a favorable current all the way, and what will be the state of the tide?

An inspection of the diagram on the opposite page shows that the most favorable time for going out from Governors Island is about three hours before high water, which is given as occurring at 5h. 04m. p. m.; hence, if the vessel is abreast of Governors Island at 2 p. m. on that day and runs at a speed of 12 knots, she will carry a favorable current averaging about 1.6 knots all the way. If she is abreast of Governors Island at 5 p. m., or the approximate time of high water, and runs at a speed of 12 knots, she will carry a favorable current through Hell Gate, but will meet a contrary current near College Point. In both cases the tide will be rising throughout the course to Execution Rocks.

TABLE 9.—CURRENTS.

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CURRENT DIAGRAM EAST RIVER — NEW YORK



Explanation of Current Diagram of New York Entrance by way of Sandy Hook and Hudson River.

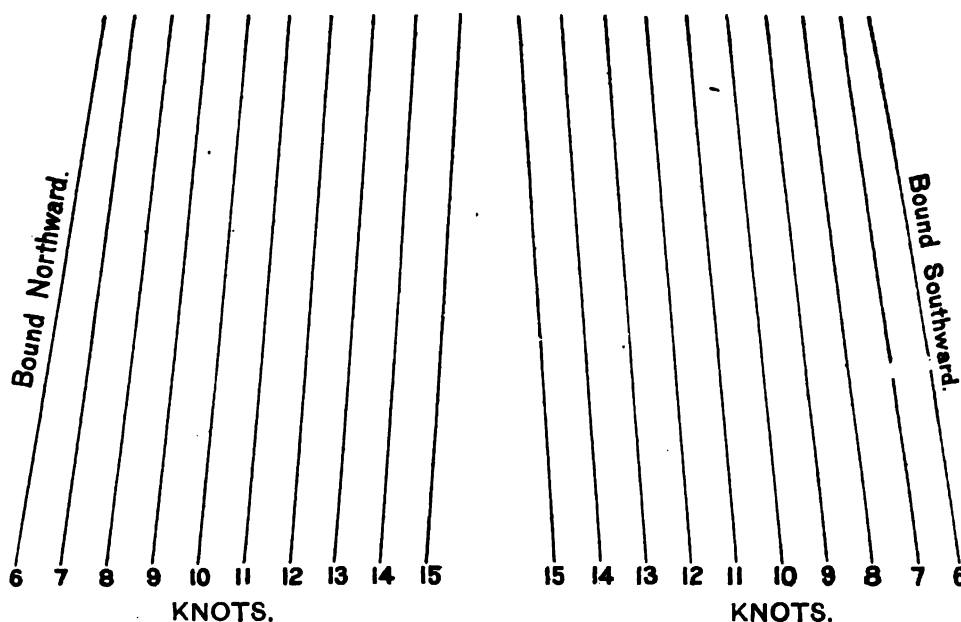
The diagram represents only average conditions of the surface currents along the middle of the channel between Scotland Light Ship and the Spuyten Duyvil, the scale being too small to show details. In the path of the Hudson, from The Narrows to the Tappan Sea, it is running flood 15 feet below the surface fully an hour before the turning from ebb to flood at the surface.

On the diagram flood streams are designated as "north" currents, and ebb streams as "south" currents. The small figures on the surface of the diagram denote the velocity of the current in knots and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence the actual course on the diagram will become more nearly vertical with favorable and less vertical with contrary currents.

SPEED LINES.

New York Entrance by way of Sandy Hook.

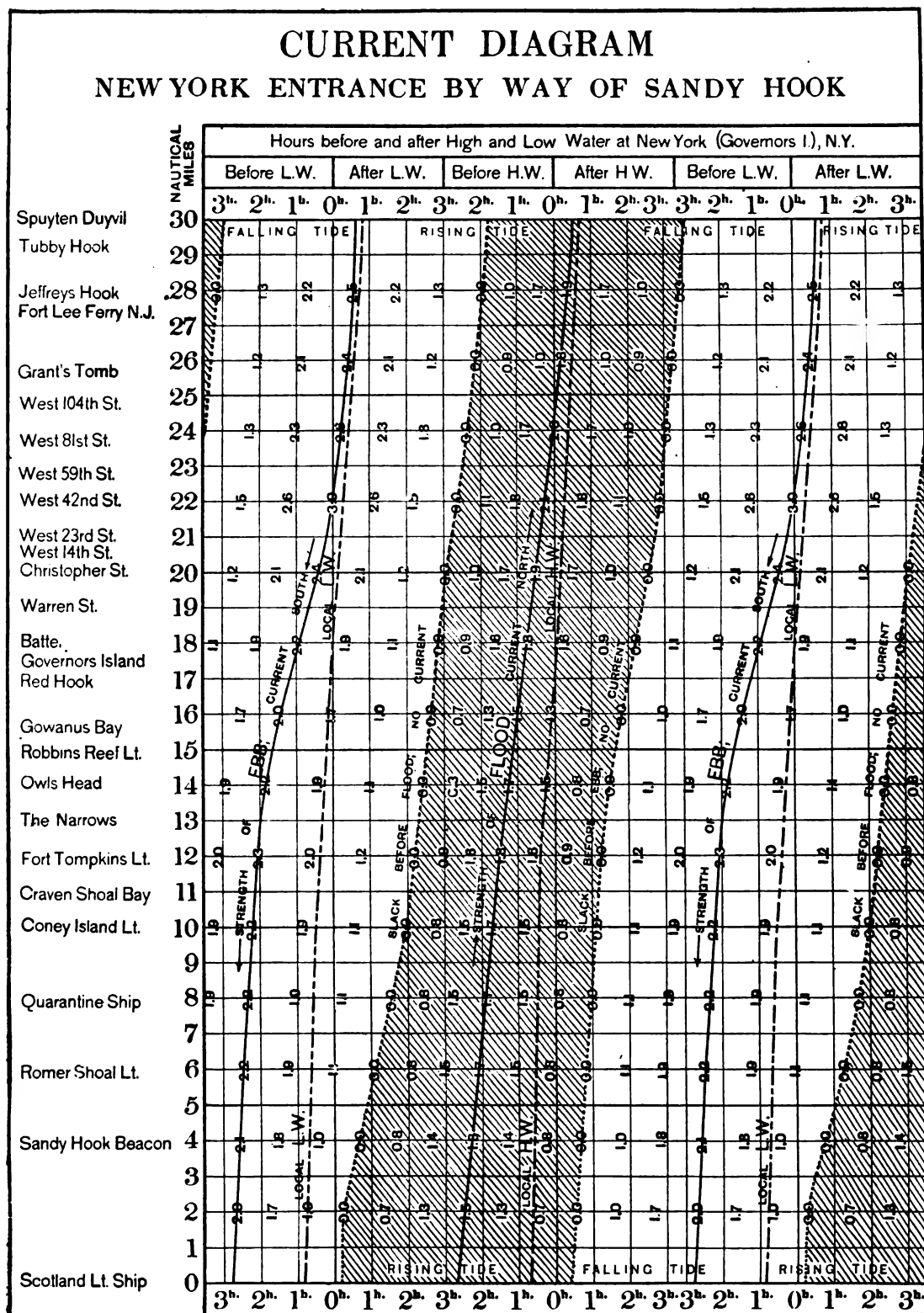


Example.—A vessel at anchor in New York Harbor desires to pass through The Narrows in the forenoon of a day when high water at Governors Island occurs at 1h. 20m. a. m. and low water at 7h. 55m. a. m. At what time should she get under way to carry a favorable current all the way to Scotland Light Ship, and what will be the state of the tide?

An inspection of the diagram on the opposite page shows that the most favorable time for going out from Governors Island is about three hours before low water, which is given as occurring at 7h. 55m. a. m.; hence, if the vessel is abreast of Governors Island at 5 a. m. on that day, and runs at a speed of 10 knots, she will carry a favorable current averaging about 2 knots all the way. If she is abreast of Governors Island at 8 a. m., or the approximate time of low water, and runs at a speed of 10 knots, she will carry a favorable current through The Narrows, but will meet a contrary current near Romer Shoal Light. In the first case the tide will be falling throughout the course to Scotland Light Ship, which will be reached near the time of low water. In the other case the tide will be rising throughout the whole course.

TABLE 9.—CURRENTS.

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Explanation of Current Diagram, Delaware Bay.

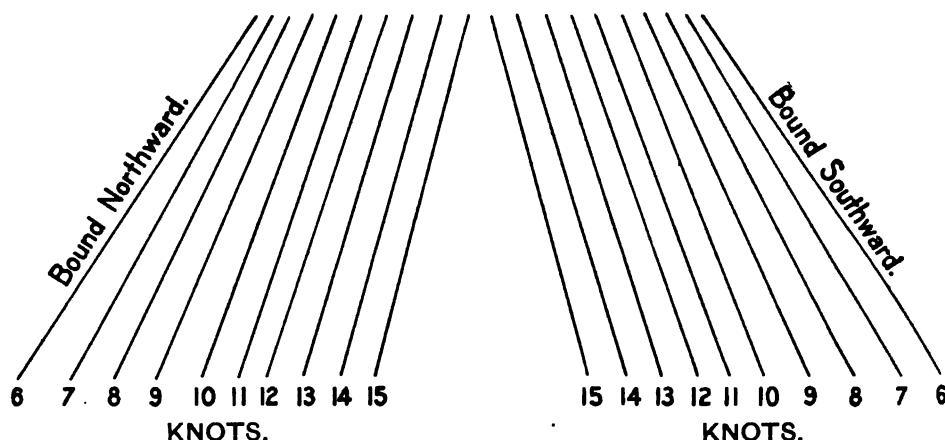
The diagram represents only average conditions of the surface currents along the middle of the channel between Bridesburg and Five Fathoms Bank Light, the scale being too small to show details.

On the diagram northerly streams are designated as "Flood" currents and southerly streams as "Ebb" currents. The small figures on the diagram denote the velocities of the current in knots and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence, the actual course on the diagram will become more nearly vertical with favorable and less vertical with contrary currents.

SPEED LINES.

Delaware Bay.

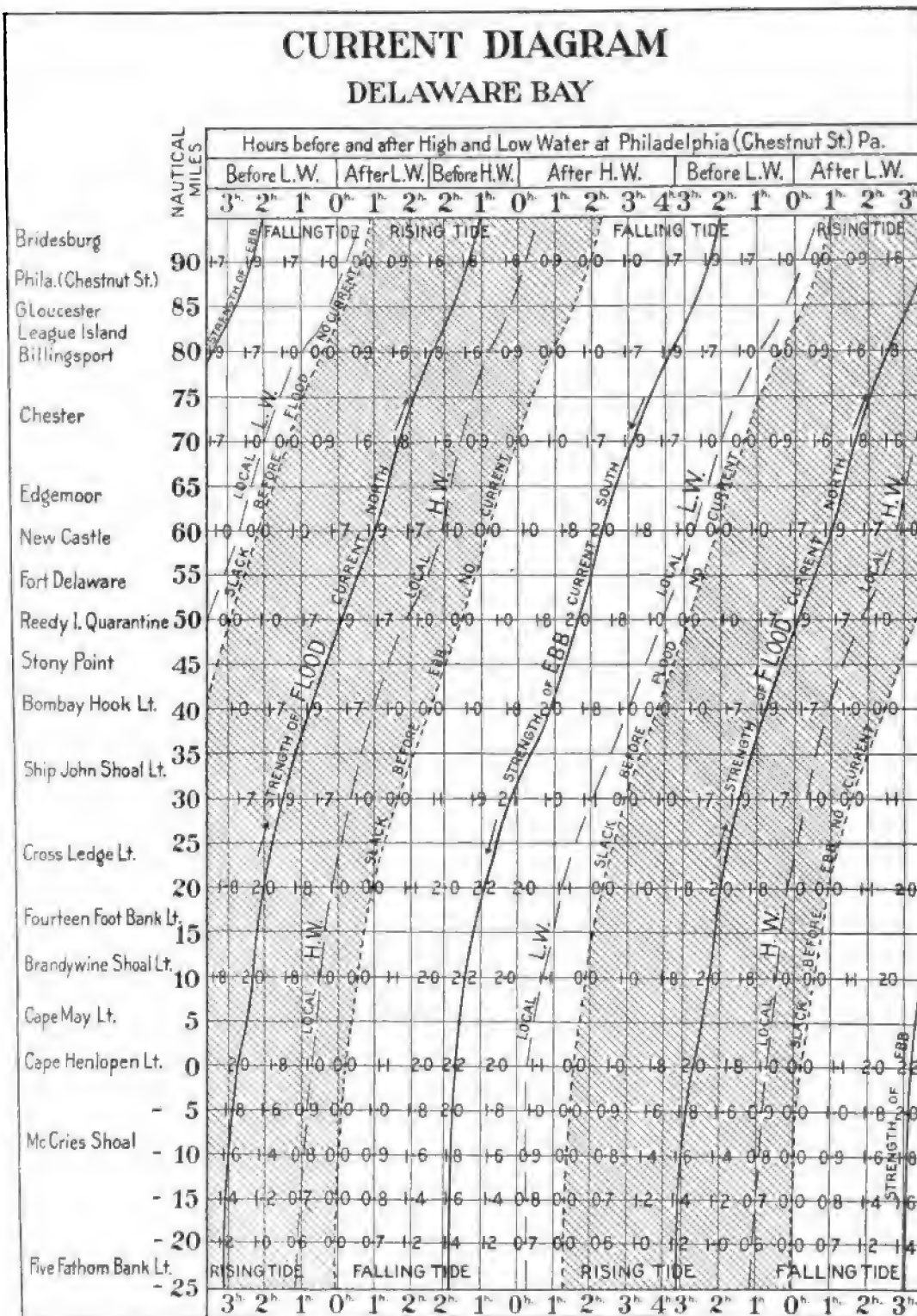


Example.—A vessel leaving Cape Henlopen on a day when high water at Philadelphia occurs at 1h. 11m. a. m., and low water at 8h. 18m. a. m., desires to carry a favorable current all the way to Philadelphia. Her speed being 12 knots, at what time should she get under way and what will be the state of the tide?

An inspection of the diagram on the opposite page shows that the most favorable time for leaving Cape Henlopen is about three hours before low water at Philadelphia, which is given as occurring at 8h. 18m. a. m.; hence, if the vessel leaves Cape Henlopen about 5 a. m. on that day, and runs at a speed of 12 knots, she will carry a favorable current averaging about 1.9 knots, with a rising tide all the way.

A vessel leaving Philadelphia and running 12 knots can carry a favorable current only about one-half the way. The most favorable time to leave is about the time of low water at Philadelphia. She will then have an unfavorable current averaging about 1 knot as far as Stony Point and carry a favorable current averaging about 1.3 knots the remaining distance. As far as Fort Delaware the tide will be rising; from Fort Delaware to Cape Henlopen the tide will be falling.

TABLE 9.—CURRENTS.

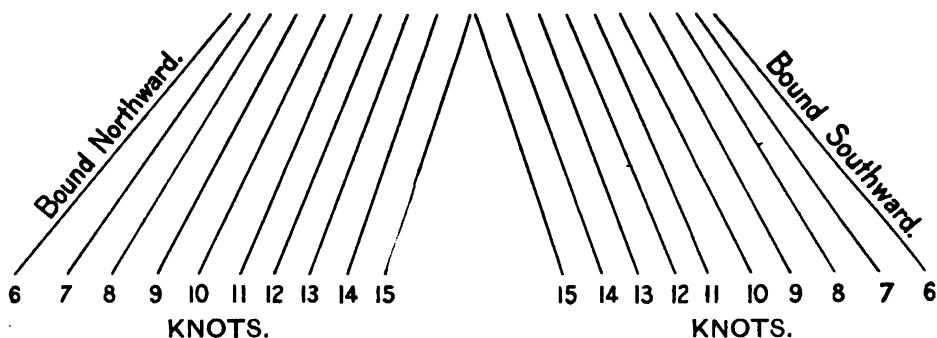


Explanation of Current Diagram, Chesapeake Bay.

The diagram represents only average conditions of the surface currents along the middle of the channel from Cape Henry Light to Baltimore, the scale being too small to show details.

On the diagram northerly streams are designated as "Flood" currents and southerly streams as "Ebb" currents. The small figures on the face of the diagram denote the velocities of the current in knots and tenths of knots.

The speed lines below represent the track of a vessel at certain speeds, supposing there is no current; hence, the actual course on the diagram will become more nearly vertical with favorable and less vertical with contrary currents.

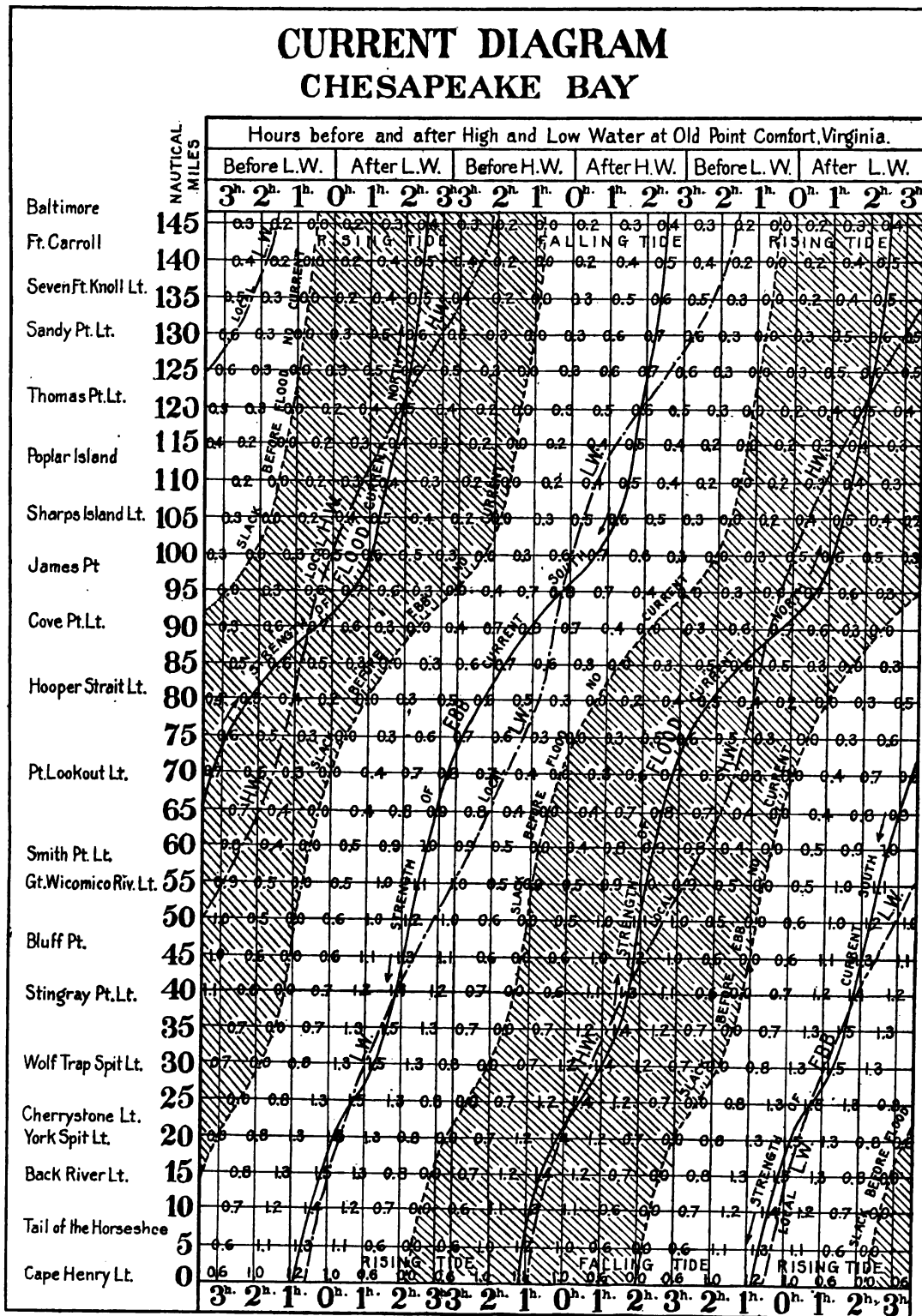
SPEED LINES.**Chesapeake Bay.**

In the case of a vessel bound for Baltimore and running about 12 knots the most favorable time for passing Cape Henry is from two to three hours before high water at Old Point Comfort. Inspection of the diagram on the opposite page shows that she will then carry a favorable current averaging about 0.8 knot all the way to Baltimore. As far as James Point the tide will be rising, and from there to Baltimore it will be about local high water. To find the best time to leave Cape Henry on any given date subtract between two to three hours from the time of high water for that date as given in these tables.

A vessel leaving Baltimore and running at a speed of 12 knots can carry a favorable current at best only about two-thirds of the way to Cape Henry. Inspection of the diagram shows that the most favorable time to leave Baltimore is about two hours before high water at Old Point Comfort, or about high water at Baltimore. Leaving at this time a favorable current, averaging about 0.3 knot, will be carried to Cove Point; from Cove Point to Smith Point a contrary current, averaging about 0.4 knot, will be met, and from Smith Point to Cape Henry a favorable current, averaging about 0.8 knot, will be carried. The tide will be falling from Baltimore to Poplar Island and from Point Lookout to Wolf Trap Spit, and rising the remainder of the distance.

TABLE 9.—CURRENTS.

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SEYMOUR NARROWS (Discovery Passage), BRITISH COLUMBIA, 1909.

TIMES OF SLACK WATER.

JANUARY.							FEBRUARY.							MARCH.							
Moon.	Day of—		Current turns from—				Moon.	Day of—		Current turns from—				Moon.	Day of—		Current turns from—				
	W.	Mo.						W.	Mo.						W.	Mo.					
			S to N.	N to S.	S to N.	N to S.				S to N.	N to S.	S to N.	N to S.				S to N.	N to S.	S to N.	N to S.	
	F	1	2:25	8:50	13:30	20:00		M	1	3:30	9:50	14:40	21:00	N	M	1	2:05	8:50	13:30	19:45	
	S	2	3:25	9:40	14:25	20:50	N	Tu	2	4:05	10:30	15:25	21:40		Tu	2	2:50	9:30	14:20	20:30	
	S	3	4:05	10:20	15:05	21:25		W	3	4:35	10:55	16:00	22:20		W	3	3:20	10:00	15:10	21:20	
	M	4	4:40	11:00	15:50	22:00		Th	4	5:05	11:20	16:50	23:00		Th	4	3:50	10:20	15:50	22:00	
N	Tu	5	5:10	11:35	16:25	22:40	○	F	5	5:30	11:50	17:30	23:35	○	F	5	4:20	10:35	16:30	22:40	
○	W	6	5:35	12:05	17:00	23:20		S	6	6:00	12:10	18:15		○ A	S	6	4:50	10:55	17:15	23:10	
	Th	7	6:00	12:40	17:45	23:55				N to S.	S to N.	N to S.	S to N.		S	7	5:15	11:10	17:50		
	F	8	6:30	13:15	18:25		A	S	7	0:10	6:30	12:40	19:00	E	M	8	0:00	5:35	11:30	18:25	
			N to S.	S to N.	N to S.	S to N.				M	8	0:50	6:55	13:00	Tu	9	0:30	6:00	12:00	19:00	
	S	9	0:35	7:05	13:45	19:20	E	Tu	9	1:30	7:15	13:30	20:25		Tu	9	0:30	6:00	12:00	19:00	
	S	10	1:20	7:45	14:10	20:20		W	10	2:20	7:50	14:05	21:15		W	10	1:15	6:30	12:25	19:45	
A	M	11	2:10	8:20	14:40	21:10		Th	11	3:10	8:30	14:50	22:00		Th	11	2:00	7:05	13:00	20:20	
	Tu	12	3:00	8:55	15:15	22:10		F	12	4:10	9:20	15:50	22:55		F	12	2:40	7:50	13:40	21:10	
E	W	13	3:50	9:30	16:00	23:10	○	S	13	5:30	10:10	16:45	23:50	○	S	13	3:25	8:35	14:35	22:00	
○	Th	14	5:00	10:30	16:50			S	14	6:40	11:15	17:50		○	S	14	4:30	9:30	15:30	23:05	
			S to N.	N to S.	S to N.	N to S.				S to N.	N to S.	S to N.	N to S.				S to N.	N to S.	S to N.	N to S.	
	F	15	0:00	6:10	11:15	17:35		M	15	0:50	7:50	12:30	19:00	S	Tu	16	0:15	7:20	11:50	18:30	
	S	16	0:55	7:10	12:10	18:40	S	Tu	16	1:55	9:10	13:30	19:55		Tu	16	0:15	7:20	11:50	18:30	
	S	17	1:55	8:25	13:10	19:25		W	17	2:50	9:55	14:40	20:55		W	17	1:20	8:40	13:10	19:20	
	M	18	2:40	9:20	14:00	20:15		Th	18	3:40	10:35	15:50	22:00		Th	18	2:20	9:30	14:30	21:00	
	Tu	19	3:30	10:00	15:00	21:00		F	19	4:30	11:10	16:40	23:00		F	19	3:25	10:10	16:00	22:15	
S	W	20	4:10	10:45	15:50	22:00	●	S	20	5:10	11:40	17:40	23:50	●	S	20	4:15	10:50	17:00	23:00	
●	Th	21	4:55	11:20	16:40	22:50				N to S.	S to N.	N to S.	S to N.				N to S.	S to N.	N to S.	S to N.	
	F	22	5:35	12:00	17:35	23:40	E	M	22	0:40	6:35	12:50	19:30	E	M	22	0:15	5:45	12:10	18:40	
P	S	23	6:10	12:35	18:15					Tu	23	1:40	7:20	13:40	20:20	Tu	23	1:10	6:20	12:40	19:10
			N to S.	S to N.	N to S.	S to N.				W	24	2:30	8:00	14:30	21:20	W	24	1:40	6:45	13:05	19:55
	S	24	0:30	7:00	13:15	19:35		Th	25	3:35	8:50	15:30	22:20		Th	25	2:25	7:10	13:40	20:40	
	M	25	1:40	7:50	14:10	20:50		F	26	4:40	10:00	16:30	23:40		F	26	3:10	7:50	14:20	21:30	
E	Tu	26	2:50	8:30	15:10	21:50	○	S	27	6:30	11:20	17:45		○	S	27	4:15	8:40	15:15	22:40	
○	W	27	4:00	9:20	16:20	23:20				S to N.	N to S.	S to N.	N to S.		S	28	5:30	9:50	16:20		
○	Th	28	5:30	10:35	17:25			S	28	1:05	7:50	12:30	18:40				S to N.	N to S.	S to N.	N to S.	
			S to N.	N to S.	S to N.	N to S.											S to N.	N to S.	S to N.	N to S.	
	F	29	0:40	6:50	11:50	18:30									M	29	0:10	6:40	11:20	17:30	
	S	30	1:55	8:05	12:50	19:20									Tu	30	1:30	7:30	12:50	18:50	
	S	31	2:50	9:00	14:00	20:10									W	31	2:25	8:15	14:10	20:00	

This table gives the predicted 120th meridian times of Middle Slack Water; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m. The heading "N to S" in the body of the table means that the current which had been setting toward the north before the time of slack water will begin to set southward shortly after that time; and "S to N" means exactly the reverse. Symbols and abbreviations relating to the moon: ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator (not to be confounded with the compass directions over the times of slack); A, P, moon in apogee or perigee. The times in heavy-faced type are those which are most likely to be followed by a comparatively weak current. At weakest neap tides the passage may be made at all stages of the current. The current at spring tides in Seymour Narrows attains an estimated velocity of 12 miles or more per hour, and when it is setting strong to the southward heavy and dangerous swirls and overfalls form along the south shore of Maude Island, and generally, though in a somewhat lessened degree, over the surface of the channel between Maude Island and Race Point. With a strong northerly

TABLE 9.—CURRENTS.

SEYMOUR NARROWS (Discovery Passage), BRITISH COLUMBIA, 1909.

TIMES OF SLACK WATER.

APRIL.					MAY.					JUNE.				
Moon.	Day of—		Current turns from—		Moon.	Day of—		Current turns from—		Moon.	Day of—		Current turns from—	
	W.	Mo.				W.	Mo.				W.	Mo.		
A C E	Th	1	S to N. N to S. S to N. N to S.		S	1	2:40 8:55 15:20 21:40			Tu	1	2:45 9:10 16:10 22:30		
	F	2	8:50 9:25 16:00 22:10		S	2	3:00 9:25 15:55 22:20			W	2	3:15 9:50 16:45 23:10		
	S	3	4:20 10:00 16:40 23:00		M	3	3:25 9:50 16:30 23:00			Th	3	3:50 10:25 17:20 23:50		
	S	4	4:50 10:30 17:10 23:30		Tu	4	3:50 10:20 17:00 23:30			F	4	4:30 11:05 18:00 . . .		
	M	5	5:15 11:00 17:40 . . .		W	5	4:20 10:50 17:40 . . .			S	5	N to S. S to N. N to S. S to N.		
S C	Tu	6	N to S. S to N. N to S. S to N.		Th	6	0:00 4:45 11:25 18:10			S	6	0:30 5:10 11:50 18:40		
	W	7	0:15 5:40 11:30 18:10		F	7	0:35 5:20 12:00 18:50			S	6	1:15 6:00 12:30 19:20		
	Th	8	0:35 6:05 12:00 18:35		S	8	1:20 6:05 12:40 19:35			M	7	2:00 7:00 13:20 20:00		
	F	9	1:10 6:30 12:30 19:10		S	9	2:00 7:00 13:20 20:20			Tu	8	2:50 8:10 14:10 20:50		
	S	10	2:30 7:25 13:45 20:30		M	10	2:50 8:00 14:15 21:25			W	9	3:50 9:45 15:10 21:50		
S C	S	11	3:10 8:10 14:35 21:30		Tu	11	3:50 9:20 15:10 22:40			Th	10	4:55 11:00 16:35 22:50		
	M	12	4:05 9:10 15:35 22:50		W	12	5:00 10:45 16:30 . . .			F	11	6:00 12:20 18:20 23:55		
	Tu	13	5:10 10:30 16:40 . . .		Th	13	0:00 6:15 12:40 18:30			S	12	6:55 13:50 20:00 . . .		
	W	14	S to N. N to S. S to N. N to S.		F	14	1:20 7:30 14:00 19:55			S	13	S to N. N to S. S to N. N to S.		
	Th	15	0:05 6:25 12:20 18:10		S	15	2:10 8:20 15:10 21:30			S	13	1:10 7:50 14:55 21:20		
P E	F	16	1:35 7:55 14:00 19:40		S	16	2:55 9:05 16:00 22:35			M	14	2:10 8:40 15:50 22:20		
	S	17	2:50 9:10 15:20 21:20		M	17	3:30 9:50 16:40 23:25			Tu	15	2:50 9:25 16:25 22:55		
	S	18	3:40 10:00 16:15 22:40		Tu	18	4:00 10:30 17:25 . . .			W	16	3:25 10:00 17:05 23:30		
	S	18	4:20 10:30 17:00 23:30		W	19	0:00 4:45 11:10 18:00			Th	17	4:05 10:40 17:50 . . .		
	M	19	4:50 11:00 17:35 . . .		Th	20	0:30 5:20 11:40 18:40			N	F	18	N to S. S to N. N to S. S to N.	
N	Tu	20	N to S. S to N. N to S. S to N.		F	21	1:20 5:50 12:20 19:20			S	19	0:10 4:40 11:20 18:15		
	W	21	0:10 5:15 11:35 18:10		S	22	1:55 6:30 12:55 20:00			S	19	0:55 5:35 12:05 18:50		
	Th	22	0:45 5:45 12:00 18:50		M	24	3:20 8:40 14:30 21:30			S	20	0:55 5:35 12:05 18:50		
	Th	22	1:20 6:20 12:35 19:30		Tu	25	4:20 9:40 15:25 22:30			S	20	1:35 6:25 12:45 19:25		
	F	23	2:00 6:55 13:10 20:10		W	26	5:30 11:00 16:35 23:30			M	21	2:05 7:20 13:25 20:10		
D	S	24	2:45 7:30 13:55 21:00		Th	27	6:20 12:20 18:10 . . .			Tu	22	2:40 8:20 14:20 20:45		
	S	25	3:40 8:30 15:00 22:00		F	28	0:20 7:00 13:20 19:20			W	23	3:10 9:20 15:10 21:20		
	M	26	4:50 9:40 16:10 23:10		S	29	1:10 7:30 14:10 20:20			Th	24	3:40 10:20 16:20 22:00		
	Tu	27	6:15 11:20 17:30 . . .		S	30	1:45 8:05 15:00 21:00			F	25	4:25 11:20 17:25 22:50		
	W	28	S to N. N to S. S to N. N to S.		M	31	2:20 8:40 15:40 22:00			S	26	5:20 12:20 18:30 23:50		
A	Th	29	0:35 7:15 12:50 18:40							M	28	6:20 13:20 19:30 . . .		
	Th	29	1:30 7:55 14:00 19:50							S	27	S to N. N to S. S to N. N to S.		
	F	30	2:10 8:20 14:40 20:40							M	28	0:40 7:15 14:00 20:10		
										Tu	29	0:40 7:15 14:00 20:10		
										W	30	1:20 8:00 14:55 21:20		
												2:10 8:40 15:35 22:10		

set of the current, swirls and overfalls of greater magnitude and danger occur just to the northward of Ripple Rock. The water seems to boil and whirlpools are formed large enough to engulf a small vessel. Great trees with their roots and branches attached

set of the current, swirls and overfalls of greater magnitude and danger occur just to the northward of Ripple Rock. The water seems to boil and whirlpools are formed large enough to engulf a small vessel. Great trees with their roots and branches attached will be turned end over end and around and around. The currents in Seymour Narrows are quite irregular (see the results obtained by Lieut. Commander E. K. Moore, U. S. N., given on page 494), and mariners are advised, therefore, to be on hand a sufficient time before the tabulated times (say half an hour or more), in order to make sure of the desired slack water, in case the predictions happen to be too late. If bound to the northward a vessel should be on hand somewhat before the time given under "S to N" in the table, and if bound to the southward somewhat before the time given under "N to S" in the table. To those having good local knowledge it is usually possible to pass south for about an hour after the current begins to set southward; then avoiding the strength of the current, the last hour and a half of the south current may be used, that is, during the 1st 30^m before the time given under "S to N." Strangers should never vary from the rule of passing either way at the slack-water period, taking care to select a time of slack water which will be followed by a favorable current.

SEYMOUR NARROWS (Discovery Passage), BRITISH COLUMBIA, 1909.

TIMES OF SLACK WATER.

JULY.										AUGUST.										SEPTEMBER.									
Moon.	Day of—		Current turns from—							Moon.	Day of—		Current turns from—							Moon.	Day of—		Current turns from—						
	W.	Mo.									W.	Mo.									W.	Mo.							
C	Th	1	S to N. N to S. S to N. N to S.							○ S	1	S to N. N to S. S to N. N to S.							W	1	S to N. N to S. S to N. N to S.								
	F	2	2:55 9:20 16:15 22:55							M	2	4:20 10:35 17:15 23:45									6:00 12:10 18:15								
	S	3	3:40 10:00 17:00 23:35									5:10 11:20 18:00									N to S. S to N. N to S. S to N.								
	S	4	4:20 10:50 17:35							P Tu	3	N to S. S to N. N to S. S to N.							E Th	2	0:30 6:50 13:00 19:15								
	S	5	N to S. S to N. N to S. S to N.							W	4	0:20 5:50 12:15 18:40							F	3	1:10 7:50 14:00 19:40								
	M	6	0:15 5:05 11:35 18:20							E Th	5	1:00 6:45 13:05 19:20							S	4	2:00 8:40 14:55 20:20								
	Tu	7	1:00 6:00 12:20 19:00							F	6	1:40 8:00 14:10 20:00							S	5	2:50 9:45 16:06 21:25								
	W	8	1:35 7:10 13:10 19:50							S	7	2:30 9:10 15:20 20:50							M	6	4:00 11:05 17:40 22:40								
	Th	9	2:15 8:20 14:10 20:40							○ S	8	3:30 10:20 16:40 21:50							N W	8	5:10 12:20 19:20 23:50								
	F	10	3:10 9:30 15:10 21:40							M	9	4:35 11:45 17:55 23:00									6:20 13:40 20:30								
	S	11	4:00 10:45 16:20 22:40							Tu	10	5:50 13:20 19:30									S to N. N to S. S to N. N to S.								
	S	12	5:15 12:10 18:00 23:45							W	11	S to N. N to S. S to N. N to S.							Th	9	1:05 7:20 14:25 21:20								
N	S	13	6:20 13:30 20:00							Th	12	0:20 6:55 14:20 20:35							F	10	2:10 8:20 15:10 21:50								
	M	14	S to N. N to S. S to N. N to S.							W	13	1:30 7:45 15:15 21:30							S	11	3:00 9:10 16:40 22:10								
	Tu	15	1:00 7:30 14:45 21:10							N Th	14	2:30 8:40 16:50 22:15							S	12	3:45 9:45 16:10 22:30								
	W	16	1:55 8:20 15:40 22:00							F	15	3:10 9:20 17:25 22:40							M	13	4:25 10:30 16:40 22:50								
	Th	17	2:40 9:05 16:20 22:40							○ S	16	3:50 10:05 16:55 23:10							● Tu	14	5:05 11:10 17:00 23:40								
	F	18	3:30 9:40 16:55 23:20							M	17	4:30 10:50 17:25 23:40							E W	15	5:35 11:45 17:25 23:25								
	S	19	4:05 10:20 17:25 23:55							Tu	18	5:10 11:30 17:55							A Th	16	6:10 12:20 17:45 23:45								
	S	20	4:50 11:05 17:50							W	19	N to S. S to N. N to S. S to N.							F	17	6:45 13:00 18:10								
	S	21	N to S. S to N. N to S. S to N.							Th	20	0:05 5:55 12:00 18:20									N to S. S to N. N to S. S to N.								
	M	22	0:25 5:30 11:40 18:20							W	21	0:30 6:40 12:40 18:50							S	18	0:05 7:20 13:40 19:50								
	Tu	23	1:00 6:10 12:25 18:55							Th	22	1:00 7:20 13:20 19:10							S	19	0:40 8:10 14:20 19:25								
	W	24	1:35 7:10 13:05 19:30							F	23	1:20 8:10 14:00 19:35							M	20	1:15 8:50 15:05 20:10								
A	Th	25	2:00 8:05 13:40 20:10							S	24	1:45 8:50 14:50 20:10							Tu	21	2:05 9:40 16:10 21:10								
	F	26	2:30 8:50 14:30 20:40							○ S	25	2:30 9:45 15:45 21:00							W	22	3:10 10:50 17:20 22:10								
	S	27	3:00 9:50 15:30 21:20							M	26	3:20 10:35 16:50 21:50							S Th	23	4:20 11:50 18:50 23:10								
	S	28	3:40 10:50 16:30 22:00							Tu	27	4:20 11:30 18:10 22:50							F	24	5:35 12:55 20:10								
	S	29	4:30 11:30 17:40 22:50							W	28	5:30 12:30 19:30									S to N. N to S. S to N. N to S.								
	M	30	5:20 12:35 18:50 23:50							Th	29	S to N. N to S. S to N. N to S.							S	25	0:45 7:05 14:10 21:10								
	Tu	31	6:20 13:30 20:00							F	30	0:00 6:30 13:30 20:35							S	26	2:10 8:30 15:10 22:00								
	W	1	S to N. N to S. S to N. N to S.							S	31	1:10 7:40 14:40 21:40							M	27	3:25 9:40 16:05 22:40								
	Th	2	0:45 7:10 14:20 20:55							Th	1	2:25 8:40 15:30 22:25							Tu	28	4:35 10:45 16:45 23:05								
	F	3	1:40 8:00 15:10 21:40							○ S	2	3:30 9:40 16:10 23:00							W	29	5:25 11:45 17:20 23:40								
	S	4	2:40 8:55 16:00 22:25							M	3	4:20 10:30 16:50 23:25							Th	30	6:05 12:30 18:00								
	S	5	3:30 9:45 16:40 23:05							P Tu	4	5:10 11:20 17:30 23:55																	

This table gives the predicted 120th meridian times of Middle Slack Water; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m. The heading "N to S" in the body of the table means that the current which had been setting toward the north before the time of slack water will begin to set southward shortly after that time; and "S to N" means exactly the reverse. Symbols and abbreviations relating to the moon: ●, new moon; ☾, 1st quart.; ☾, full moon; ☾, 3d quart.; E, moon on the equator; N, S, moon farthest north or south of the equator (not to be confounded with the compass directions over the times of slack); A, P, moon in apogee or perigee. The times in heavy faced type are those which are most likely to be followed by a comparatively weak current. At weakest neap tides the passage may be made at all stages of the current. The current at spring tides in Seymour Narrows attains an estimated velocity of 12 miles or more per hour; and when it is setting strong to the southward heavy and dangerous swirls and overfalls form along the south shore of Maude Island, and generally, though in a somewhat lessened degree, over the surface of the channel between Maude Island and Race Point. With a strong northerly

TABLE 9.—CURRENTS.

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SEYMOUR NARROWS (Discovery Passage), BRITISH COLUMBIA, 1909.

TIMES OF SLACK WATER.

OCTOBER.					NOVEMBER.					DECEMBER.							
Moon.	Day of	Current turns from—				Moon.	Day of	Current turns from—				Moon.	Day of	Current turns from—			
	W. Mo.	N to S.	S to N.	N to S.	S to N.		W. Mo.	N to S.	S to N.	N to S.	S to N.		W. Mo.	N to S.	S to N.	N to S.	S to N.
F A Z	F 1	0:10	6:55	13:15	18:30	C	M 1	1:00	8:00	14:30	19:30	C	W 1	1:30	8:30	15:05	20:10
	S 2	0:45	7:35	13:55	19:00		N Tu 2	1:40	8:50	15:20	20:05		Th 2	2:15	9:15	16:00	21:30
	S 3	1:20	8:20	14:55	19:30		W 3	2:35	9:40	16:30	21:20		F 3	3:10	10:15	17:10	22:40
	M 4	2:00	9:10	16:00	20:20		Th 4	3:50	10:55	17:50	22:50		S 4	4:20	11:20	18:10	...
	Tu 5	2:50	10:10	17:10	21:15		F 5	5:00	12:10	18:55	...		S to N. N to S. S to N. N to S.				
	W 6	3:50	11:40	18:20	22:50		S to N. N to S. S to N. N to S.					S 5	0:00	5:50	12:05	18:40	
	Th 7	5:05	13:00	19:20	...		S 6	0:20	6:10	13:20	19:45	E M 6	1:00	6:50	12:50	19:20	
E A	F 8	0:30	6:20	14:15	20:00	A E	S 7	1:40	7:30	14:00	20:15	A Tu 7	2:00	8:00	13:25	19:50	
	S 9	2:00	7:45	15:05	20:40		M 8	2:30	8:30	14:30	20:40	W 8	2:40	9:00	14:00	20:20	
	S 10	3:00	8:50	15:35	21:20		Tu 9	3:10	9:20	14:55	21:10	Th 9	3:20	9:40	14:30	21:00	
	M 11	3:50	10:00	16:10	21:45		W 10	3:40	10:10	15:20	21:40	F 10	4:00	10:30	15:00	21:30	
	Tu 12	4:20	10:40	16:40	22:15		Th 11	4:20	10:45	15:45	22:10	S 11	4:30	11:00	15:40	22:10	
	W 13	5:00	11:20	17:05	22:45		F 12	4:50	11:20	16:05	22:40	S 12	5:00	11:40	16:20	22:50	
	Th 14	5:30	11:50	17:25	23:15	S	S 13	5:25	11:50	16:30	23:10	M 13	5:40	12:20	17:00	23:30	
F 15	6:00	12:20	17:55	23:50	S 14		6:00	12:20	17:10	23:50	Tu 14	6:20	13:00	17:50	...		
S 16	6:30	13:00	18:20	...	M 15		6:40	13:00	17:55	...	N to S. S to N. N to S. S to N.						
N to S. S to N. N to S. S to N.					N to S. S to N. N to S. S to N.					W 15	0:10	7:10	13:40	18:45			
S 17	0:15	6:55	13:30	18:50	Tu 16		0:30	7:20	13:50	18:40	Th 16	1:00	7:45	14:20	20:00		
M 18	0:50	7:30	14:10	19:15	W 17		1:10	8:05	14:35	19:30	F 17	2:00	8:30	15:10	21:05		
Tu 19	1:30	8:20	14:55	19:50	Th 18		1:50	9:00	15:20	20:40	S 18	3:00	9:25	16:10	22:35		
S D	W 20	2:15	9:10	15:45	20:45	D	F 19	2:45	10:05	16:30	22:10	D S 19	4:10	10:30	17:10	23:50	
	Th 21	3:10	10:20	16:45	21:55		S 20	3:55	11:20	17:40	23:35	E M 20	5:50	11:40	18:10	...	
	F 22	4:15	11:30	18:00	23:35		S 21	5:30	12:20	18:55	...	S to N. N to S. S to N. N to S.					
	S 23	5:30	13:00	19:20	...		S to N. N to S. S to N. N to S.					Tu 21	1:10	7:40	12:45	19:10	
	S to N. N to S. S to N. N to S.						M 22	1:10	7:10	13:45	20:00	W 22	2:40	9:10	13:40	20:10	
	S 24	1:20	7:05	14:25	20:40		Tu 23	2:30	8:40	14:30	20:50	P Th 23	3:35	9:50	14:35	20:55	
	M 25	2:45	8:30	15:20	21:30		W 24	3:30	10:00	15:10	21:30	F 24	4:15	10:30	15:20	21:35	
E P	Tu 26	3:50	10:00	16:05	22:10	P	Th 25	4:15	11:00	16:40	22:10	S 25	4:50	11:10	16:00	22:20	
	W 27	4:35	11:00	16:35	22:45		F 26	5:00	11:35	16:10	22:45	S 26	5:20	11:50	16:40	23:00	
	Th 28	5:10	11:45	17:00	23:15		S 27	5:40	12:15	17:00	23:25	M 27	5:50	12:25	17:20	23:40	
	F 29	5:50	12:25	17:30	23:45		S 28	6:20	12:55	17:40	...	Tu 28	6:20	13:05	18:15	...	
	S 30	6:30	13:00	18:00	...		N to S. S to N. N to S. S to N.					N to S. S to N. N to S. S to N.					
	N to S. S to N. N to S. S to N.						M 29	0:05	7:05	13:40	18:20	W 29	0:30	7:00	13:40	19:10	
	S 31	0:20	7:15	13:40	18:40		Tu 30	0:40	7:50	14:20	19:10	Th 30	1:10	7:45	14:10	20:20	
												F 31	2:05	8:20	14:45	21:20	

set of the current, swirls and overfalls of greater magnitude and danger occur just to the northward of Ripple Rock. The water seems to boil and whirlpools are formed large enough to engulf a small vessel. Great trees with their roots and branches attached will be turned end over end and around and around. The currents in Seymour Narrows are quite irregular (see the results obtained by Lieut. Commander E. K. Moore, U. S. N., given on page 494), and mariners are advised, therefore, to be on hand a sufficient time before the tabulated times (say half an hour or more), in order to make sure of the desired slack water in case the predictions happen to be too late. If bound to the northward a vessel should be on hand somewhat before the time given under "S to N" in the table, and if bound to the southward somewhat before the time given under "N to S" in the table. To those having good local knowledge it is usually possible to pass south for about an hour after the current begins to set southward; then avoiding the strength of the current, the last hour and a half of the south current may be used, that is, during the 1^h 30^m before the time given under "S to N." Strangers should never vary from the rule of passing either way at the slack-water period, taking care to select a time of slack water which will be followed by a favorable current.

TABLE 9.—CURRENTS.

SERGIUS NARROWS (Peril Strait), ALASKA, 1909.

TIMES OF SLACK WATER.

JANUARY.				FEBRUARY.				MARCH.			
Moon.	Day of— W. Mo.	Current turns from—				Moon.	Day of— W. Mo.	Current turns from—			
		S to N. N to S. S to N. N to S.						S to N. N to S. S to N. N to S.			
	F 1	0:30	6:50	18:05	19:30		M 1	2:20	8:30	14:45	20:50
	S 2	1:40	7:55	14:15	20:25	N	Tu 2	3:10	9:10	15:25	21:30
	S 3	2:45	8:45	15:00	21:05		W 3	3:45	9:50	16:00	22:15
	M 4	3:20	9:30	15:40	21:50	O	Th 4	4:25	10:30	16:40	22:45
N	Tu 5	4:00	10:10	16:15	22:25		F 5	5:05	11:00	17:20	23:20
O	W 6	4:40	10:40	17:00	23:00		S 6	5:40	11:30	17:50	23:45
	Th 7	5:20	11:20	17:40	23:35	A	S 7	6:10	12:00	18:20	
	F 8	6:00	11:50	18:15				N to S. S to N. N to S. S to N.			
		N to S. S to N. N to S. S to N.					M 8	0:10	6:40	12:30	19:00
	S 9	0:05	6:35	12:25	18:50	E	Tu 9	0:50	7:10	13:00	19:30
	S 10	0:40	7:10	13:00	19:30		W 10	1:20	7:50	13:40	20:10
A	M 11	1:20	7:50	13:40	20:10		Th 11	2:00	8:30	14:30	20:50
	Tu 12	2:00	8:35	14:30	20:50		F 12	3:00	9:20	15:30	21:40
E	W 13	2:50	9:20	15:25	21:40	C	S 13	3:50	10:20	16:30	22:30
C	Th 14	3:50	10:10	16:20	22:40		S 14	5:05	11:25	17:40	
	F 15	4:55	11:10	17:30	23:40			S to N. N to S. S to N. N to S.			
	S 16	6:00	12:10	18:30			M 15	0:00	6:20	12:40	19:05
		S to N. N to S. S to N. N to S.				S	Tu 16	1:20	7:45	14:00	20:10
	S 17	0:40	7:10	13:20	19:40		W 17	2:30	8:40	15:00	21:05
	M 18	1:50	8:10	14:25	20:35		Th 18	3:25	9:30	15:45	21:55
	Tu 19	2:50	9:00	15:15	21:20		F 19	4:10	10:15	16:30	22:35
S	W 20	3:40	9:40	16:00	22:10	P	S 20	4:55	10:55	17:15	23:15
●	Th 21	4:20	10:30	16:45	22:45		S 21	5:40	11:35	18:00	23:50
	F 22	5:15	11:10	17:30	23:30	E	M 22	6:20	12:10	18:40	
P	S 23	6:00	11:50	18:15				N to S. S to N. N to S. S to N.			
		N to S. S to N. N to S. S to N.					Tu 23	0:30	7:00	12:55	19:20
	S 24	0:05	6:40	12:30	19:00		W 24	1:10	7:45	13:35	20:05
	M 25	0:50	7:25	13:15	19:45		Th 25	2:00	8:35	14:30	21:00
E	Tu 26	1:40	8:15	14:10	20:40	D	F 26	3:10	9:40	15:50	22:10
	W 27	2:40	9:10	15:10	21:40		S 27	4:20	10:50	17:00	23:25
D	Th 28	3:50	10:10	16:30	22:45		S 28	5:40	12:00	18:30	
	F 29	5:00	11:20	17:40	23:50						
	S 30	6:20	12:30	18:50							
		S to N. N to S. S to N. N to S.									
	S 31	1:05	7:30	13:40	20:00						

This table gives the predicted 135th meridian times of Middle Slack Water; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance, 15:42 is 3:42 p. m. The heading "N to S" in the body of the table means that the current which had been setting toward the north before the time of slack water will begin to set southward shortly after that time; and "S to N" means exactly the reverse. Symbols and abbreviations relating to the moon: ●, new moon; D, 1st quar.; O, full moon; C, 3d quar.; E, moon on the equator. N, S, moon farthest north or south of the equator (not to be confounded with the compass directions over the times of slack); A, P, moon in apogee or perigee. Slack Water usually lasts from five to twenty minutes; those slacks which occur under the heading "N to S" are locally known as "High Water Slack," and those under "S to N" as "Low Water Slack," although high and low waters do not occur until about two hours later. The times in heavy-faced type are those which are most likely to be followed by a comparatively weak current. At weakest neap tides those with good local knowledge pass through Sergius Narrows at all stages of the current. The current at spring tides in Sergius Narrows attains an estimated velocity of 10 to 12 miles per hour in the narrowest and worst part of the Narrows, between Eureka Ledge and the north shore. When the current is running strong

TABLE 9.—CURRENTS.

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SERGIUS NARROWS (Peril Strait), ALASKA, 1909.

TIMES OF SLACK WATER.

APRIL.						MAY.						JUNE.								
Moon.	Day of—		Current turns from—				Moon.	Day of—		Current turns from—				Moon.	Day of—		Current turns from—			
	W.	Mo.						W.	Mo.						W.	Mo.				
A C E S C P E N D	Th	1	S to N. N to S. S to N. N to S.				S	1	S to N. N to S. S to N. N to S.				Tu	1	S to N. N to S. S to N. N to S.					
	F	2	2:25	8:25	14:45	20:55	E	S	2	2:30	8:40	14:50	21:00	W	2	3:05	9:10	15:25	21:30	
	S	3	3:00	9:10	15:25	21:30	M	3	3:10	9:15	15:25	21:30	Th	3	3:40	9:50	16:00	22:10		
	S	4	3:40	9:45	15:50	22:00	Tu	4	3:40	9:40	15:50	22:00	F	4	4:15	10:20	16:30	22:40		
	M	5	4:05	10:15	16:20	22:30	W	5	4:10	10:15	16:20	22:30	S	5	4:55	10:55	17:15	23:10		
	Tu	6	4:40	10:40	16:55	23:00	Th	6	4:40	10:40	17:00	23:00	S	6	5:40	11:30	18:00	23:50		
	W	7	5:15	11:10	17:25	23:20	F	7	5:20	11:15	17:30	23:30	S	6	6:20	12:10	18:40	...		
	Th	8	5:40	11:35	18:00	23:50			5:50	11:45	18:10	...			N to S.	S to N.	N to S.	S to N.		
			6:15	12:10	18:30	...	S	8	N to S.	S to N.	N to S.	S to N.	M	7	0:30	7:00	12:55	19:30		
	F	9	N to S.	S to N.	N to S.	S to N.	S	9	0:00	6:30	12:20	18:50	Tu	8	1:20	7:55	13:45	20:20		
	S	10	0:20	6:50	12:40	19:10	S	9	0:40	7:15	13:05	19:40	W	9	2:15	8:50	14:50	21:20		
	S	11	1:00	7:30	13:20	19:50	M	10	1:30	8:10	14:00	20:30	Th	10	3:30	10:00	16:10	22:30		
	S	12	1:40	8:20	14:15	20:40	Tu	11	2:30	9:10	15:10	21:40	F	11	4:50	11:10	17:25	23:40		
	M	13	2:45	9:20	15:25	21:55	W	12	3:50	10:20	16:30	23:00	S	12	6:00	12:20	18:40	...		
	Tu	14	4:05	10:35	16:50	23:10	Th	13	5:10	11:35	18:00	...			S to N.	N to S.	S to N.	N to S.		
W	15	5:30	12:00	18:20	...	F	14	S to N.	N to S.	S to N.	N to S.	S	13	1:00	7:20	13:35	19:50			
Th	16	S to N.	N to S.	S to N.	N to S.	S	15	0:10	6:40	12:50	19:15	M	14	2:00	8:20	14:30	20:40			
F	17	0:40	7:00	13:20	19:40	E	S	15	1:30	7:50	14:10	20:20	Tu	15	2:50	9:00	15:15	21:20		
S	18	1:55	8:10	14:30	20:40	P	S	16	2:30	8:40	14:55	21:00	W	16	3:35	9:40	15:55	22:05		
S	19	2:50	9:00	15:15	21:20	M	17	3:15	9:20	15:35	21:40	Th	17	4:15	10:20	16:35	22:40			
S	20	3:35	9:40	15:50	22:05	Tu	18	3:50	10:00	16:10	22:20	F	18	5:05	11:00	17:20	23:20			
M	21	4:10	10:20	16:30	22:35	W	19	4:30	10:40	16:55	23:00	S	19	5:40	11:35	18:00	23:55			
Tu	22	4:50	10:50	17:10	23:10	Th	20	5:20	11:15	17:40	23:30	S	20	6:25	12:15	18:45	...			
W	23	5:35	11:30	18:00	23:50	F	21	6:00	11:50	18:15	...			N to S.	S to N.	N to S.	S to N.			
Th	24	6:15	12:10	18:35	...			N to S.	S to N.	N to S.	S to N.	M	21	0:35	7:05	12:55	19:30			
F	25	N to S.	S to N.	N to S.	S to N.	N	S	22	0:05	6:40	12:30	19:05	Tu	22	1:20	7:50	13:40	20:10		
S	26	0:25	7:00	12:50	19:20	S	23	0:50	7:30	13:20	19:55	W	23	2:05	8:40	14:30	21:00			
S	27	1:10	7:45	13:40	20:10	M	24	1:45	8:20	14:10	20:45	Th	24	3:00	9:30	15:30	21:50			
S	28	2:10	8:50	14:40	21:15	Tu	25	2:45	9:15	15:20	21:40	F	25	4:00	10:20	16:30	22:50			
M	29	3:20	9:50	16:00	22:20	W	26	3:50	10:15	16:30	22:50	S	26	5:00	11:20	17:40	23:45			
Tu	30	4:40	11:00	17:20	23:40	Th	27	5:05	11:20	17:40	23:50	S	27	6:00	12:15	18:35	...			
W	31	6:00	12:10	18:30	...	F	28	6:10	12:15	18:40	...			S to N.	N to S.	S to N.	N to S.			
Th	29	S to N.	N to S.	S to N.	N to S.	S	29	S to N.	N to S.	S to N.	N to S.	M	28	0:40	7:10	13:15	19:40			
F	30	0:40	7:10	13:20	19:40	E	S	29	0:50	7:10	13:20	19:40	Tu	29	1:40	8:00	14:15	20:25		
		1:45	8:00	14:10	20:25	S	30	1:45	8:00	14:10	20:20	W	30	2:35	8:45	14:55	21:05			
						M	31	2:30	8:40	14:50	21:00									

it is not safe for any vessel, especially a large one, to pass from below Francis Rocks to above Liesnoi Shoal. During spring tide it is recommended to pass through only at or near the time of middle slack. The water at the strength of the current is very much disturbed, heaving up over the ledge in the middle and boiling and swirling in the channel, especially at the end where the water is passing out. The channel is so narrow and the current so variable in direction that if a vessel gets a sheer she may be carried on the reef or shore before she can be straightened out. The currents in Sergius Narrows are quite irregular (see the results obtained by Lieut. Commander E. K. Moore, U. S. N., given on page 495), and mariners are advised, therefore, to be on hand a sufficient time before the tabulated times (say half an hour or more), in order to make sure of the desired slack water, in case the predictions happen to be too late. If bound to the northward, a vessel should be on hand somewhat before the time given under "S to N" in the table, and if bound to the southward, somewhat before the time given under "N to S" in the table. There is about half an hour on each side of middle slack when any ordinary powered vessel can pass in perfect safety, especially if going with the current. Strangers should never vary from the rule of passing either way at the slack-water period, taking care to select a time of slack water which will be followed by a favorable current.

SERGIUS NARROWS (Peril Strait), ALASKA, 1909.

TIMES OF SLACK WATER.

JULY.										AUGUST.										SEPTEMBER.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Moon.	Day of—		Current turns from—							Moon.	Day of—		Current turns from—							Moon.	Day of—		Current turns from—																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	W.	Mo.	S to N.	N to S.	S to N.	N to S.	N to S.	W.	Mo.		S to N.	N to S.	S to N.	N to S.	N to S.	W.	Mo.	S to N.	N to S.		S to N.	N to S.	N to S.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
O	Th	1	3:20	9:20	15:40	21:40			○	S	1	4:30	10:30	16:50	22:50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</

This table gives the predicted 135th meridian times of Middle Slack Water; 0^h is midnight, 12^h is noon; all hours less than 12 are in the forenoon (a. m.), all greater are in the afternoon (p. m.) and when diminished by 12 give the times after noon; for instance 15:42 is 3:42 p. m. The heading "N to S" in the body of the table means that the current which had been setting toward the north before the time of slack water will begin to set southward shortly after that time; and "S to N" means exactly the reverse. Symbols and abbreviations relating to the moon: ●, new moon; ☾, 1st quar.; ○, full moon; ☾, 3d quar.; E, moon on the equator; N, S, moon farthest north or south of the equator (not to be confounded with the compass directions over the times of slack water). P, moon in apogee or perigee. Slack water usually lasts from five to twenty minutes; those slacks which occur under the heading "N to S" are locally known as "High Water Slack," and those under "S to N" as "Low Water Slack," although high and low waters do not occur until about two hours later. The times in heavy-faced type are those which are most likely to be followed by a comparatively weak current. At weakest neap tides those with good local knowledge pass through Sergius Narrows at all stages of the current. The current at spring tides in Sergius Narrows attains an estimated velocity of 10 to 12 miles per hour in the narrowest and worst part of the Narrows, between Eureka Ledge and the north shore. When the current is running straight

TABLE 9.—CURRENTS.

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SERGIUS NARROWS (Peril Strait), ALASKA, 1909.

TIMES OF SLACK WATER.

OCTOBER.				NOVEMBER.				DECEMBER.			
Moon.	Day of—	Current turns from—		Moon.	Day of—	Current turns from—		Moon.	Day of—	Current turns from—	
W. Mo.				W. Mo.				W. Mo.			
		S to N. N to S. S to N. N to S.				N to S. S to N. N to S. S to N.				N to S. S to N. N to S. S to N.	
F	1	6:00	11:50 18:15 . . .	M	1	0:30	7:00 12:55 19:30	W	1	1:00	7:35 13:30 20:05
		N to S. S to N. N to S. S to N.		N	Tu	2	1:25 7:55 13:45 20:25	Th	2	2:00	8:35 14:30 20:55
S	2	0:05	6:35 12:25 19:00	W	3	2:20	9:00 15:00 21:30	F	3	3:00	9:25 15:30 22:00
S	3	0:50	7:20 13:10 19:45	Th	4	3:30	10:05 16:15 22:40	S	4	4:10	10:30 16:45 23:00
M	4	1:35	8:15 14:10 20:45	F	5	5:00	11:20 17:40 23:50	S	5	5:15	11:25 17:45 . . .
N	Tu	5	2:45 9:15 15:20 22:00	S	6	6:10	12:20 18:45 . . .			S to N. N to S. S to N. N to S.	
W	6	4:00	10:35 16:50 23:10			S to N. N to S. S to N. N to S.		E	M	6	0:00 6:20 12:30 18:50
Th	7	5:30	11:50 18:10 . . .	S	7	0:50	7:20 13:30 19:45	A	Tu	7	0:50 7:20 13:30 19:45
		S to N. N to S. S to N. N to S.		M	8	1:50	8:10 14:20 20:30	W	8	1:50	8:05 14:15 20:25
F	8	0:30	6:50 13:10 19:30	A	Tu	9	2:45 8:45 14:55 21:05	Th	9	2:35	8:40 14:55 21:00
S	9	1:40	7:55 14:10 20:20	W	10	3:10	9:20 15:25 21:30	F	10	3:10	9:20 15:30 21:35
S	10	2:35	8:40 14:55 21:00	Th	11	3:45	9:50 15:55 22:05	S	11	3:45	9:50 16:00 22:10
M	11	3:10	9:20 15:30 21:35	F	12	4:10	10:20 16:25 22:30	S	12	4:20	10:25 16:40 22:40
Tu	12	3:45	9:50 16:00 22:05	S	13	4:45	10:45 17:00 23:00	M	13	5:00	11:00 17:20 23:20
E	W	13	4:10 10:20 16:25 22:30	S	14	5:20	11:20 17:40 23:30	S	Tu	14	5:40 11:35 18:00 23:50
Th	14	4:40	10:40 17:00 23:00	M	15	6:00	11:50 18:15 . . .	W	15	6:20	12:15 18:45 . . .
F	15	5:15	11:10 17:30 23:25			N to S. S to N. N to S. S to N.				N to S. S to N. N to S. S to N.	
S	16	5:45	11:40 18:00 23:50	S	Tu	16	0:05 6:35 12:25 18:50	Th	16	0:35	7:05 13:00 19:30
S	17	6:15	12:10 18:30 . . .	W	17	0:45	7:20 13:10 19:45	F	17	1:20	7:55 13:45 20:20
		N to S. S to N. N to S. S to N.		Th	18	1:35	8:10 14:00 20:35	S	18	2:15	8:50 14:50 21:20
M	18	0:25	6:50 12:40 19:10	F	19	2:40	9:10 15:20 21:40	D	S	19	3:25 9:50 16:00 22:20
Tu	19	1:00	7:30 13:25 19:55	D	S	20	3:50 10:20 16:30 22:50	E	M	20	4:40 11:00 17:20 23:30
S	W	20	1:45 8:30 14:20 20:50	S	21	5:10	11:30 17:50 . . .	Tu	21	5:50	12:10 18:30 . . .
Th	21	2:55	9:25 15:30 22:00			S to N. N to S. S to N. N to S.				S to N. N to S. S to N. N to S.	
F	22	4:10	10:40 16:50 23:20	M	22	6:10	6:30 12:40 19:10	P	W	22	0:40 7:10 13:20 19:40
S	23	5:40	12:00 18:20 . . .	E	Tu	23	1:20 7:45 13:50 20:10	Th	23	1:50	8:10 14:25 20:35
		S to N. N to S. S to N. N to S.		W	24	2:20	8:35 14:50 20:55	F	24	2:50	9:00 15:10 21:20
S	24	0:40	7:10 13:20 19:45	P	Th	25	3:10 9:15 15:30 21:35	S	25	3:35	9:40 15:55 22:05
M	25	1:55	8:10 14:25 20:35	O	F	26	3:50 10:00 16:10 22:20	S	26	4:20	10:25 16:40 22:40
E	Tu	26	2:50 9:00 15:10 21:20	S	27	4:45	10:40 16:55 23:00	N	M	27	5:05 11:05 17:25 23:20
P	W	27	3:35 9:40 15:50 22:00	S	28	5:20	11:15 17:40 23:35	Tu	28	5:50	11:45 18:10 . . .
C	Th	28	4:10 10:20 16:30 22:30	N	M	29	6:05 11:55 18:25 . . .			N to S. S to N. N to S. S to N.	
F	29	4:55	10:55 17:10 23:10			N to S. S to N. N to S. S to N.		W	29	0:00	6:30 12:20 18:50
S	30	5:37	11:30 18:00 23:50	Tu	30	0:15	6:50 12:40 19:10	Th	30	0:40	7:10 13:05 19:35
S	31	6:15	12:10 18:40 . . .					F	31	1:25	8:00 13:45 20:20

It is not safe for any vessel, especially a large one, to pass from below Francis Rocks, to above Liesnoi Shoal. During spring tide it is recommended to pass through only at or near the time of middle slack. The water at the strength of the current is very much disturbed, heaving up over the ledge in the middle and boiling and swirling in the channel, especially at the end where the water is passing out. The channel is so narrow and the current so variable in direction that if a vessel gets a sheer she may be carried on the reef or shore before she can be straightened out. The currents in Sergius Narrows are quite irregular (see the results obtained by Lieut. Commander E. K. Moore, U. S. N., given on page 495), and mariners are advised, therefore, to be on hand a sufficient time before the tabulated times (say half an hour or more), in order to make sure of the desired slack water, in case the predictions happen to be too late. If bound to the northward, a vessel should be on hand somewhat before the time given under "S to N" in the table, and if bound to the southward, somewhat before the time given under "N to S" in the table. There is about half an hour on each side of middle slack when any ordinary powered vessel can pass in perfect safety, especially if going with the current. Strangers should never vary from the rule of passing either way at the slack-water period, taking care to select a time of slack water which will be followed by a favorable current.

Seymour Narrows and Sergius Narrows.

In order to satisfy those who prefer using the old rules for obtaining the times of slack water, rather than the published predictions for Seymour Narrows and Sergius Narrows, the following rules are given here:

At Seymour Narrows, for high-water slacks add 4h 53m to Sitka time of high water, and for low-water slacks add 5h to Sitka time of low water. The result is in 120th meridian time without further correction. The mean duration of slack current is generally about 12m, but it varies from about 30m down to no slack.

At Sergius Narrows, for high-water slacks subtract 2h from Sitka time of high water, and for low-water slacks subtract 2h from Sitka time of low water. The mean duration of slack current is from 5m to 20m. At the end of high-water slack the current turns and flows southward through Sergius Narrows for about six hours, or until low-water slack, after which the current turns and flows northward for about six hours. The high and low tides occur nearly two hours after slack waters.

The following tables and remarks were compiled by Lieut. Commander E. K. Moore, U. S. N., Assistant, U. S. C. & G. S., from the current observations he obtained in 1897 at Seymour Narrows, British Columbia, and Sergius Narrows, Alaska.

Seymour Narrows.

	h. m.
Mean time of slack after higher H.W. Sitka. (58 Obs.)	4 45
Mean variation from 4h 45m	10
Extreme variation 24m earlier to 1h 00m later	1 24
Mean time of slack after lower H.W. Sitka. (145 Obs.)	4 50
Mean variation from 4h 50m	17
Extreme variation 35m earlier to 54m later	1 29
Mean time of slack after all high waters. Sitka. (203 Obs.)	4 48
Mean variation from 4h 48m	15
Extreme variation 33m earlier to 57m later	1 30
Mean time of slack after lower L.W. Sitka. (122 Obs.)	4 28
Mean variation from 4h 28m	14
Extreme variation 28m earlier to 1h 02m later	1 30
Mean time of slack after higher L.W. Sitka. (53 Obs.)	5 41
Mean variation from 5h 41m	35
Extreme variation 1h 15m earlier to 1h 27m later	2 42
Mean time of slack after all low waters. Sitka. (175 Obs.)	4 51
Mean variation from 4h 51m	36
Extreme variation 51m earlier to 2h 17m later	3 08
Mean time of slack after all H. and L. waters. Sitka. (378 Obs.)	4 50
Mean of the variation from 4h 50m	23
Extreme variation 50m earlier to 2h 19m later	3 08
Mean duration of slack water	13
Variation of duration of slack water	6m to 0 19

The time used at Seymour Narrows is 120th meridian, and that at Sitka 135th meridian. so that, to make use of the table, take the time of high or low water from the Sitka table, add the difference shown by this table, and the time will be that of slack water in 120th meridian, or Puget Sound time.

The mean time of slack after higher low water is large and the variation is also large, but this constant is unimportant, as it is calculated on the tide which has the least change in water level, consequently the weakest current, and except at the largest springs a steamer can pass at any time during this tide.

The interval is generally shorter at or about the spring tides and longer at or about the neaps. A vessel requiring slack water should be on hand at the limit of the variation, and wait if the current is running too strong.

TABLE 9.—CURRENTS.

Sergius Narrows.

	h. m.
Mean time of slack before higher H. W. Sitka. (87 Obs.).....	1 35
Mean of the variations from 1h 35m	19
Extreme variations 47m earlier to 47m later.....	1 34
Mean time of slack before lower H. W. Sitka. (120 Obs.).....	2 18
Mean of the variations from 2h 18m	14
Extreme variations 47m earlier to 55m later.....	1 42
Mean time of slack before all high waters. Sitka. (207 Obs.).....	2 00
Mean of the variations from 2h 00m	24
Extreme variations 1h 05m earlier to 1h 09m later	2 14
Mean time of slack before lower L. W. Sitka. (99 Obs.).....	2 00
Mean of the variations from 2h 00m	11
Extreme variations 21m earlier to 25m later.....	46
Mean time of slack before higher L. W. Sitka. (135 Obs.).....	1 27
Mean of variations from 1h 27m.....	11
Extreme variations 36m earlier to 40m later.....	1 16
Mean time of slack before all low waters. Sitka. (234 Obs.).....	1 41
Mean of the variations from 1h 41m.....	17
Extreme variations 40m earlier to 54m later.....	1 34
Mean time of slack before all H. and L. W. Sitka. (441 Obs.).....	1 50
Mean of the variations from 1h 50m.....	24
Extreme variations 1h 15m earlier to 1h 03m later.....	2 18
Mean duration of slack water	03
Variation of the above is practically	00
Mean duration of weak current not exceeding 2 knots. (414 Obs.).....	50
Variation of the same	9m to 2 00

When the difference shown by this table is subtracted from the time of high or low water at Sitka, the time will be that of slack water at Sergius Narrows, in 135th meridian time.

All the larger variations of the above table occurred at or near neap tides, when the current was weak and the time of absolute slack was not important. At or about spring tides the variation seldom exceeded 10 minutes.

Georgia Strait, British Columbia.

To find the approximate 120th meridian time of *slack water*:

(1) At Race Passage, for the large tides, take Port Townsend time of high tide for higher high water slack, and add 55 minutes to the times of low tide for lower low water slack. For small tides add 1 hour 20 minutes to Port Townsend times of tide for lower high and higher low water slacks.

NOTE.—At Race Passage it has been observed that the ebb stream has frequently run, during small tides, the whole time the tide was rising by the shore.

(2) At East Point, take the Port Townsend time of high tide for higher high water slack, and add 1 hour 30 minutes to the time of low tide for lower low water slack.

(3) At Active Pass, add 20 minutes to the Port Townsend time of high tide for higher high water slack, and add 1 hour to the time of low tide for lower low water slack.

(4) At Portier Pass, subtract 15 minutes from the Port Townsend time of high tide for higher high water slack, and add 50 minutes to the time of low tide for lower low water slack.

(5) At Dodd Narrows, for the large tides, subtract 15 minutes from Port Townsend time of high tide for higher high water slack, and add 35 minutes to the time of low tide for lower low water slacks. For small tides take Port Townsend time of tide for high or low water slack.

(6) At Burrard Inlet, First Narrows, add 2 hours and 30 minutes to the large tides and 2 hours to the small tides at Port Townsend.

(7) At Yuculta Rapids, Stuart Island, for large tides take Port Townsend time of tide for high and low water slacks. For small tides add 1 hour and 30 minutes to the Port Townsend times to obtain high or low water slack.

(8) At Hole in the Wall, add 45 minutes to Port Townsend time of tide.

(9) At Seechelt Rapids, add 4 hours 30 minutes to the Port Townsend time of the large tides and 4 hours to the time of the small tides.

NOTE.—The time of slack water for small tides is more uncertain than for the large tides.

These rules were furnished by Capt. J. T. Walbran, commanding D. G. S. *Quadra*.

Chatham Strait, Alaska.

To find the approximate 135th meridian time of *slack water*:

At Killisnoo, Kootznahoo Roads, add 3 hours to the Sitka time of the higher high waters, and add 2 hours to the time of all other tides. The current turns from ESE. to WNW. between high and low water, and from WNW. to ESE. between low and high water.

TABLE 10.—MEAN LOCAL TIME OF SUN RISE AND SUN SET.

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	North Latitude.															
		0°	2°	4°	6°	8°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
23 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37 S	6	5 59	6 02	6 06	6 10	6 14	6 17	6 19	6 20	6 22	6 24	6 26	6 28	6 30	6 32	6 33	6 35
21 58 S	11	6 02	6 05	6 09	6 11	6 15	6 18	6 21	6 22	6 24	6 26	6 28	6 29	6 31	6 33	6 35	6 37
21 08 S	16	6 04	6 07	6 11	6 14	6 17	6 20	6 22	6 23	6 25	6 27	6 29	6 30	6 32	6 34	6 36	6 38
20 07 S	21	6 06	6 09	6 12	6 15	6 18	6 21	6 23	6 24	6 26	6 28	6 30	6 31	6 33	6 34	6 36	6 38
18 58 S	26	6 07	6 10	6 12	6 16	6 19	6 22	6 24	6 25	6 27	6 28	6 30	6 31	6 33	6 34	6 36	6 38
17 39 S	31	6 09	6 12	6 14	6 17	6 20	6 22	6 24	6 25	6 27	6 28	6 30	6 31	6 32	6 34	6 35	6 37
16 13 S	Feb. 5	6 10	6 13	6 15	6 17	6 20	6 22	6 23	6 24	6 25	6 27	6 28	6 29	6 30	6 32	6 33	6 34
14 40 S	10	6 11	6 13	6 15	6 17	6 19	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 32
13 01 S	15	6 11	6 13	6 14	6 16	6 18	6 20	6 20	6 22	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29
11 16 S	20	6 10	6 12	6 13	6 15	6 16	6 18	6 18	6 20	6 21	6 22	6 23	6 23	6 24	6 25	6 26	6 27
9 28 S	25	6 10	6 11	6 12	6 13	6 14	6 16	6 16	6 18	6 18	6 18	6 19	6 20	6 20	6 21	6 22	6 22
7 30 S	Mar. 2	6 09	6 10	6 11	6 12	6 12	6 14	6 14	6 15	6 15	6 16	6 16	6 17	6 17	6 18	6 18	6 19
5 34 S	7	6 08	6 09	6 10	6 10	6 10	6 11	6 11	6 12	6 12	6 12	6 13	6 13	6 14	6 14	6 15	6 15
3 37 S	12	6 06	6 06	6 07	6 08	6 08	6 09	6 09	6 09	6 09	6 09	6 10	6 10	6 10	6 10	6 11	6 11
1 39 S	17	6 05	6 05	6 05	6 05	6 05	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06
0 20 N	22	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 02
2 18 N	27	6 02	6 01	6 01	6 01	6 00	6 00	6 00	6 00	5 59	5 59	5 59	5 58	5 58	5 58	5 58	5 58
4 15 N	Apr. 1	6 00	6 00	5 59	5 58	5 58	5 57	5 56	5 56	5 56	5 55	5 55	5 55	5 54	5 54	5 54	5 53
6 09 N	6	5 59	5 58	5 57	5 56	5 55	5 54	5 54	5 53	5 53	5 52	5 52	5 51	5 50	5 50	5 50	5 49
8 02 N	11	5 57	5 56	5 55	5 55	5 53	5 52	5 51	5 50	5 49	5 49	5 48	5 48	5 47	5 46	5 46	5 45
9 51 N	16	5 56	5 54	5 53	5 52	5 50	5 49	5 48	5 47	5 46	5 45	5 45	5 44	5 43	5 42	5 42	5 41
11 35 N	21	5 55	5 53	5 52	5 51	5 49	5 47	5 46	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 37
13 15 N	26	5 54	5 52	5 50	5 48	5 46	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 37	5 36	5 35	5 34
14 50 N	May 1	5 53	5 51	5 49	5 47	5 44	5 42	5 41	5 40	5 39	5 38	5 36	5 35	5 34	5 33	5 32	5 31
16 19 N	6	5 53	5 51	5 49	5 47	5 45	5 43	5 41	5 39	5 38	5 36	5 34	5 33	5 32	5 30	5 29	5 28
17 42 N	11	5 52	5 50	5 47	5 44	5 42	5 39	5 38	5 36	5 35	5 34	5 32	5 31	5 30	5 28	5 27	5 26
18 55 N	16	5 52	5 50	5 47	5 44	5 41	5 38	5 37	5 35	5 34	5 32	5 31	5 29	5 28	5 26	5 25	5 23
19 58 N	21	5 52	5 50	5 46	5 44	5 40	5 38	5 36	5 34	5 33	5 31	5 30	5 28	5 26	5 25	5 23	5 21
21 00 N	26	5 53	5 50	5 47	5 44	5 40	5 37	5 36	5 34	5 32	5 31	5 29	5 27	5 25	5 24	5 22	5 20
21 48 N	31	5 53	5 50	5 47	5 44	5 40	5 37	5 35	5 34	5 32	5 31	5 28	5 27	5 25	5 23	5 21	5 19
22 28 N	June 5	5 54	5 51	5 48	5 44	5 41	5 37	5 36	5 34	5 32	5 30	5 28	5 26	5 25	5 22	5 21	5 19
22 57 N	10	5 55	5 52	5 48	5 45	5 41	5 38	5 36	5 34	5 32	5 31	5 29	5 27	5 25	5 23	5 21	5 19
23 17 N	15	5 56	5 53	5 49	5 46	5 42	5 38	5 37	5 35	5 33	5 31	5 30	5 28	5 26	5 24	5 22	5 20
23 26 N	20	5 57	5 54	5 50	5 47	5 43	5 39	5 38	5 36	5 34	5 32	5 31	5 29	5 27	5 25	5 23	5 21
23 25 N	25	5 58	5 55	5 51	5 48	5 44	5 41	5 39	5 37	5 35	5 33	5 32	5 30	5 28	5 26	5 24	5 22
23 14 N	30	5 59	5 56	5 52	5 49	5 46	5 42	5 40	5 38	5 36	5 35	5 33	5 31	5 29	5 27	5 25	5 23
22 52 N	July 5	6 00	5 57	5 54	5 50	5 47	5 43	5 42	5 39	5 38	5 36	5 34	5 32	5 30	5 29	5 27	5 25
22 21 N	10	6 01	5 58	5 55	5 51	5 48	5 44	5 43	5 40	5 39	5 36	5 34	5 32	5 30	5 28	5 26	5 24
21 40 N	15	6 02	5 59	5 55	5 52	5 49	5 45	5 44	5 42	5 41	5 39	5 37	5 36	5 34	5 32	5 30	5 28
20 50 N	20	6 02	5 59	5 56	5 53	5 50	5 47	5 45	5 44	5 42	5 40	5 39	5 37	5 36	5 34	5 32	5 30
19 50 N	25	6 02	6 00	5 57	5 54	5 51	5 48	5 46	5 45	5 43	5 42	5 40	5 39	5 37	5 36	5 34	5 32
18 43 N	30	6 02	6 00	5 57	5 55	5 52	5 49	5 47	5 46	5 44	5 43	5 42	5 40	5 39	5 37	5 36	5 34
17 28 N	Aug. 4	6 02	6 00	5 57	5 55	5 52	5 49	5 48	5 47	5 46	5 44	5 43	5 42	5 40	5 39	5 37	5 36
16 06 N	9	6 02	5 59	5 57	5 55	5 52	5 50	5 49	5 48	5 46	5 45	5 44	5 43	5 41	5 40	5 39	5 38
14 37 N	14	6 01	5 59	5 57	5 54	5 52	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 40	5 39
13 03 N	19	6 00	5 58	5 56	5 54	5 52	5 50	5 50	5 48	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41
11 23 N	24	5 59	5 57	5 55	5 54	5 52	5 50	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41
9 39 N	29	5 57	5 56	5 54	5 53	5 52	5 50	5 50	5 49	5 48	5 48	5 47	5 46	5 45	5 44	5 43	5 42
7 51 N	Sept. 3	5 56	5 54	5 53	5 52	5 51	5 50	5 50	5 49	5 48	5 48	5 47	5 47	5 46	5 46	5 45	5 44
6 00 N	8	5 54	5 53	5 52	5 52	5 51	5 50	5 50	5 49	5 49	5 48	5 48	5 47	5 47	5 46	5 46	5 45
4 07 N	13	5 52	5 52	5 51	5 51	5 50	5 49	5 49	5 49	5 49	5 48	5 48	5 48	5 48	5 47	5 47	5 47
2 11 N	18	5 51	5 51	5 50	5 50	5 49	5 49	5 49	5 49	5 49	5 48	5 48	5 48	5 48	5 48	5 48	5 48
0 15 N	23	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49
1 42 S	28	5 47	5 47	5 48	5 48	5 48	5 48	5 48	5 49	5 49	5 49	5 49	5 49	5 49	5 50	5 50	5 50
3 39 S	Oct. 3	5 45	5 45	5 46	5 47	5 48	5 48	5 48	5 49	5 49	5 49	5 50	5 50	5 50	5 51	5 51	5 51
5 35 S	8	5 44	5 45	5 46	5 47	5 47	5 48	5 48	5 49	5 49	5 50	5 50	5 51	5 51	5 52	5 52	5 52
7 28 S	13	5 43	5 44	5 45	5 46	5 47	5 48	5 49	5 49	5 50	5 50	5 51	5 52	5 52	5 53	5 53	5 54
9 20 S	18	5 42	5 43	5 44	5 46	5 47	5 48	5 49	5 50	5 50	5 51	5 52	5 53	5 53	5 54	5 55	5 55
11 08 S	23	5 41	5 42	5 44	5 46	5 47	5 49	5 50	5 51	5 51	5 52	5 53	5 54	5 55	5 56	5 57	5 58
12 51 S	28	5 40	5 42	5 44	5 46	5 47	5 49	5 51	5 52	5 52	5 54	5 54	5 56	5 56	5 58	5 59	6 00
14 30 S	Nov. 2	5 40	5 42	5 44	5 46	5 48	5 50	5 52	5 53	5 54	5 55	5 56	5 57	5 58	6 00	6 01	6 02
16 03 S	7	5 40	5 42	5 45	5 47	5 49	5 52	5 53	5 54	5 56	5 57	5 58	5 59	6 00	6 02	6 03	6 04
17 29 S	12	5 40	5 43	5 46	5 48	5 51	5 53	5 56	5 56	5 57	5 59	6 00	6 01	6 03	6 04	6 06	6 07
18 48 S	17	5 41	5 44	5 47	5 50	5 52	5 55	5 57	5 58	6 00	6 01	6 02	6 04	6 05	6 07	6 08	6 10
19 58 S	22	5 42	5 45	5 48	5 51	5 54	5 57	5 59	6 00	6 02	6 04	6 05	6 07	6 08	6 10	6 11	6 13
20 59 S	27	5 44	5 47	5 50	5 54	5 56	5 59	6 01	6 02	6 04	6 05	6 06	6 09	6 11	6 13	6 14	6 16
21 51 S	Dec. 2	5 45	5 49	5 52	5 56	5 59	6 01	6 03	6 05	6 07	6 09	6 10	6 12	6 14	6 16	6 18	6 19
22 32 S	7	5 47	5 51	5 54	5 58	6 01	6 04	6 06	6 08	6 10	6 12	6 13	6 15	6 17	6 19	6 21	6 22
23 02 S	12	5 50	5 53	5 57	6 00	6 04	6 07	6 09	6 11	6 12	6 14	6 16	6 18	6 20	6 22	6 24	6 25
23 20 S	17	5 52	5 56	5 59	6 03	6 06	6 09	6 11	6 13	6 15	6 17	6 19	6 21	6 23	6 24	6 26	6 28
23 27 S	22	5 54	5 58	6													

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

499

Declina- tion.	Approx. date.	North Latitude.															
		0°	2°	4°	6°	8°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	6 08	6 05	6 01	5 57	5 53	5 50	5 49	5 48	5 46	5 44	5 42	5 40	5 38	5 37	5 35	5 33
21 53	11	6 10	6 07	6 04	5 59	5 56	5 53	5 52	5 50	5 49	5 47	5 45	5 43	5 42	5 40	5 38	5 36
21 02	16	6 12	6 09	6 06	6 03	6 00	5 56	5 55	5 53	5 51	5 50	5 48	5 46	5 45	5 43	5 41	5 39
20 01	21	6 14	6 11	6 08	6 04	6 01	5 58	5 57	5 56	5 54	5 52	5 51	5 49	5 48	5 46	5 44	5 43
18 50	26	6 15	6 12	6 09	6 07	6 04	6 01	6 00	5 58	5 57	5 55	5 54	5 52	5 50	5 49	5 47	5 46
17 31 S	31	6 16	6 13	6 10	6 09	6 06	6 03	6 02	6 00	5 59	5 58	5 56	5 55	5 53	5 52	5 50	5 49
		6 17	6 14	6 12	6 10	6 08	6 05	6 04	6 03	6 01	6 00	5 59	5 58	5 56	5 55	5 53	5 52
16 04 S	Feb. 5	6 18	6 16	6 14	6 10	6 08	6 06	6 06	6 04	6 03	6 02	6 01	6 00	5 58	5 57	5 56	5 55
14 30	10	6 18	6 16	6 14	6 12	6 10	6 08	6 07	6 06	6 04	6 04	6 02	6 02	6 00	5 59	5 58	5 58
12 51	15	6 18	6 16	6 14	6 13	6 11	6 09	6 08	6 07	6 06	6 06	6 05	6 04	6 03	6 02	6 01	6 00
11 06	20	6 18	6 16	6 14	6 13	6 12	6 10	6 09	6 08	6 06	6 07	6 06	6 06	6 05	6 04	6 03	6 02
9 16 S	25	6 17	6 16	6 14	6 13	6 12	6 11	6 10	6 09	6 09	6 08	6 08	6 07	6 06	6 05	6 04	6 04
7 18 S	Mar. 2	6 16	6 15	6 14	6 13	6 12	6 11	6 11	6 10	6 10	6 09	6 09	6 08	6 08	6 07	6 06	6 06
5 23	7	6 15	6 14	6 13	6 13	6 12	6 11	6 11	6 10	6 10	6 10	6 09	6 09	6 08	6 08	6 08	6 08
3 25	12	6 14	6 13	6 12	6 12	6 12	6 11	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 09	6 09
1 27 S	17	6 12	6 12	6 12	6 12	6 11	6 11	6 11	6 11	6 11	6 11	6 10	6 10	6 11	6 11	6 11	6 11
0 32 N	22	6 11	6 12	6 12	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 12	6 12
2 30 N	27	6 09	6 09	6 10	6 10	6 10	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 13	6 13	6 13	6 13
4 26 N	Apr. 1	6 08	6 09	6 10	6 10	6 10	6 11	6 11	6 12	6 12	6 12	6 13	6 13	6 14	6 14	6 14	6 15
6 21	6	6 06	6 07	6 08	6 09	6 10	6 11	6 11	6 12	6 12	6 13	6 13	6 14	6 14	6 15	6 16	6 16
8 13	11	6 05	6 06	6 07	6 08	6 10	6 11	6 11	6 12	6 13	6 13	6 14	6 15	6 15	6 16	6 17	6 17
10 01	16	6 04	6 06	6 07	6 08	6 10	6 11	6 12	6 12	6 13	6 14	6 15	6 16	6 16	6 17	6 18	6 19
11 46	21	6 03	6 05	6 07	6 08	6 09	6 11	6 12	6 13	6 14	6 15	6 16	6 17	6 18	6 18	6 19	6 20
13 25 N	26	6 02	6 04	6 06	6 07	6 09	6 11	6 12	6 13	6 14	6 16	6 17	6 18	6 19	6 20	6 21	6 22
14 59 N	May 1	6 01	6 04	6 06	6 07	6 10	6 12	6 13	6 14	6 15	6 16	6 18	6 19	6 20	6 21	6 22	6 24
16 27	6	6 00	6 03	6 05	6 08	6 10	6 12	6 14	6 15	6 16	6 18	6 19	6 20	6 22	6 23	6 24	6 26
17 48	11	6 00	6 03	6 05	6 08	6 11	6 13	6 15	6 16	6 18	6 19	6 20	6 22	6 23	6 25	6 26	6 28
19 02	16	6 00	6 03	6 06	6 09	6 12	6 14	6 16	6 17	6 19	6 20	6 21	6 23	6 25	6 26	6 28	6 30
20 04	21	6 00	6 03	6 06	6 09	6 12	6 15	6 17	6 18	6 20	6 22	6 23	6 25	6 26	6 28	6 30	6 32
21 05	26	6 01	6 04	6 07	6 10	6 13	6 17	6 18	6 20	6 22	6 23	6 25	6 27	6 28	6 30	6 32	6 34
21 53 N	31	6 01	6 05	6 08	6 11	6 14	6 18	6 20	6 21	6 23	6 25	6 26	6 28	6 30	6 32	6 34	6 36
22 31 N	June 5	6 02	6 06	6 09	6 12	6 16	6 19	6 21	6 23	6 25	6 26	6 28	6 30	6 32	6 34	6 36	6 38
23 00	10	6 03	6 07	6 10	6 13	6 16	6 20	6 22	6 24	6 26	6 28	6 30	6 32	6 34	6 36	6 37	6 39
23 18	15	6 04	6 08	6 11	6 15	6 18	6 22	6 24	6 26	6 27	6 29	6 31	6 33	6 35	6 37	6 39	6 41
23 26	20	6 05	6 09	6 12	6 16	6 20	6 23	6 25	6 27	6 29	6 30	6 32	6 34	6 36	6 38	6 40	6 42
23 24	25	6 06	6 10	6 14	6 17	6 21	6 24	6 26	6 28	6 30	6 31	6 33	6 35	6 37	6 39	6 41	6 43
23 12 N	30	6 07	6 11	6 14	6 18	6 21	6 25	6 27	6 28	6 30	6 32	6 34	6 36	6 38	6 40	6 42	6 44
22 50 N	July 5	6 08	6 12	6 15	6 19	6 22	6 25	6 27	6 29	6 31	6 32	6 34	6 36	6 38	6 40	6 42	6 44
22 17	10	6 09	6 13	6 16	6 19	6 22	6 26	6 27	6 29	6 31	6 33	6 34	6 36	6 38	6 40	6 42	6 44
21 35	15	6 10	6 13	6 16	6 19	6 22	6 26	6 27	6 29	6 31	6 32	6 34	6 36	6 38	6 39	6 41	6 43
20 44	20	6 10	6 13	6 16	6 19	6 22	6 25	6 27	6 28	6 30	6 32	6 33	6 35	6 37	6 38	6 40	6 42
19 44	25	6 10	6 13	6 16	6 20	6 23	6 25	6 27	6 27	6 29	6 31	6 32	6 34	6 35	6 37	6 38	6 40
18 36 N	30	6 10	6 13	6 15	6 19	6 22	6 24	6 26	6 26	6 28	6 29	6 31	6 32	6 34	6 35	6 36	6 38
17 20 N	Aug. 4	6 10	6 12	6 15	6 18	6 21	6 23	6 24	6 25	6 26	6 27	6 29	6 30	6 31	6 33	6 34	6 36
15 57	9	6 09	6 11	6 14	6 17	6 19	6 21	6 23	6 23	6 24	6 25	6 26	6 28	6 29	6 30	6 31	6 33
14 28	14	6 08	6 10	6 12	6 15	6 17	6 19	6 21	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29
12 53	19	6 07	6 09	6 11	6 13	6 15	6 17	6 18	6 18	6 19	6 20	6 21	6 22	6 23	6 24	6 25	6 26
11 13	24	6 06	6 07	6 09	6 10	6 12	6 14	6 15	6 15	6 16	6 17	6 18	6 18	6 19	6 20	6 21	6 22
9 29 N	29	6 05	6 07	6 08	6 09	6 11	6 12	6 13	6 12	6 13	6 14	6 14	6 15	6 16	6 16	6 17	6 18
7 40 N	Sept. 3	6 03	6 04	6 05	6 07	6 08	6 09	6 09	6 09	6 10	6 10	6 11	6 11	6 12	6 12	6 13	6 14
5 49	8	6 02	6 03	6 04	6 04	6 05	6 06	6 06	6 06	6 06	6 07	6 07	6 07	6 08	6 08	6 09	6 09
3 55	13	6 00	6 00	6 00	6 02	6 02	6 03	6 03	6 02	6 02	6 03	6 03	6 03	6 04	6 04	6 04	6 05
2 00	18	6 58	5 58	5 58	5 58	5 58	5 59	5 59	5 59	5 59	5 59	5 59	6 00	6 00	6 00	6 00	6 00
0 03 N	23	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56
1 54 S	28	5 55	5 55	5 54	5 53	5 53	5 53	5 52	5 52	5 52	5 52	5 52	5 52	5 52	5 51	5 51	5 51
3 51 S	Oct. 3	5 53	5 53	5 52	5 51	5 50	5 50	5 50	5 49	5 49	5 49	5 49	5 48	5 48	5 48	5 47	5 47
5 46	8	5 52	5 51	5 50	5 48	5 48	5 47	5 46	5 46	5 45	5 45	5 44	5 44	5 44	5 43	5 43	5 42
7 40	13	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 42	5 41	5 41	5 40	5 39	5 39	5 38
9 31	18	5 49	5 48	5 46	5 45	5 44	5 42	5 41	5 40	5 40	5 39	5 38	5 38	5 37	5 35	5 35	5 34
11 18	23	5 48	5 46	5 45	5 43	5 41	5 40	5 39	5 38	5 37	5 36	5 36	5 35	5 34	5 33	5 32	5 31
13 02 S	28	5 48	5 46	5 44	5 42	5 40	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29	5 28
14 40 S	Nov. 2	5 48	5 45	5 43	5 41	5 39	5 37	5 36	5 34	5 33	5 32	5 31	5 30	5 29	5 28	5 26	5 25
16 12	7	5 48	5 45	5 43	5 41	5 38	5 36	5 35	5 33	5 32	5 31	5 30	5 28	5 27	5 26	5 24	5 23
17 38	12	5 48	5 46	5 43	5 40	5 38	5 35	5 34	5 32	5 31	5 30	5 29	5 27	5 26	5 24	5 23	5 21
18 55	17	5 49	5 46	5 44	5 41	5 38	5 35	5 34	5 32	5 31	5 29	5 28	5 26	5 25	5 23	5 22	5 20
20 05	22	5 50	5 47	5 45	5 41	5 38	5 35	5 34	5 32	5 31	5 29	5 28	5 26	5 24	5 23	5 21	5 20
21 05 S	27	5 52	5 49	5 46	5 42	5 39	5 36	5 35	5 33	5 31	5 30	5 28	5 26	5 25	5 23	5 21	5 20
21 55 S	Dec. 2	5 53	5 49	5 47	5 43	5 40	5 37	5 36	5 34	5 32	5 31	5 29	5 27	5 25	5 24	5 22	5 20
22 35	7	5 55	5 51	5 49	5 45	5 42	5 39	5 37	5 36	5 34	5 32	5 30	5 28	5 27	5 25	5 23	5 21
23 04	12	5 58	5 55	5 52	5 47	5 44	5 41	5 39	5 37	5 36	5 34	5 32	5 30	5 28	5 26	5 24	5 23
23 21	17	6 00	5 56	5 53	5 50	5 47	5 43	5 41	5 40	5 38							

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	North Latitude.															
		21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°
23 06 S	Jan. 1	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 54	6 56	6 58	7 01	7 03	7 05	7 08	7 10
22 37	6	6 38	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 55	6 57	6 59	7 01	7 04	7 06	7 08	7 11
21 58	11	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 53	6 56	6 57	6 59	7 01	7 04	7 06	7 08	7 11
21 08	16	6 40	6 41	6 43	6 45	6 47	6 49	6 50	6 52	6 54	6 56	6 58	7 00	7 03	7 05	7 07	7 09
20 07	21	6 39	6 41	6 43	6 44	6 46	6 48	6 49	6 51	6 53	6 56	6 57	6 59	7 01	7 03	7 05	7 07
18 58	26	6 38	6 40	6 42	6 43	6 45	6 46	6 48	6 50	6 52	6 53	6 55	6 57	6 59	7 01	7 02	7 04
17 39 S	31	6 37	6 38	6 40	6 41	6 43	6 44	6 46	6 48	6 49	6 51	6 52	6 54	6 56	6 58	7 00	7 02
16 13 S	Feb. 5	6 35	6 36	6 38	6 39	6 41	6 42	6 43	6 45	6 46	6 48	6 49	6 51	6 52	6 54	6 55	6 57
14 40	10	6 33	6 34	6 35	6 36	6 38	6 39	6 40	6 41	6 42	6 43	6 44	6 46	6 48	6 49	6 50	6 52
13 01	15	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 37	6 38	6 40	6 41	6 42	6 43	6 44	6 45	6 46
11 16	20	6 27	6 28	6 29	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 37	6 38	6 39	6 40	6 41	6 42
9 28 S	25	6 23	6 24	6 24	6 25	6 26	6 27	6 28	6 28	6 29	6 30	6 31	6 32	6 33	6 34	6 35	6 36
7 30 S	Mar. 2	6 19	6 20	6 20	6 21	6 22	6 22	6 23	6 23	6 24	6 25	6 25	6 26	6 26	6 27	6 28	6 29
5 34	7	6 15	6 16	6 16	6 16	6 17	6 17	6 18	6 18	6 18	6 19	6 19	6 20	6 20	6 20	6 21	6 21
3 37	12	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 13	6 13	6 13	6 13	6 14	6 14	6 14	6 14	6 14
1 39 S	17	6 06	6 06	6 06	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07	6 07
0 20 N	22	6 02	6 02	6 02	6 02	6 01	6 01	6 01	6 01	6 01	6 01	6 01	6 01	6 00	6 00	6 00	6 00
2 18 N	27	5 57	5 57	5 57	5 57	5 56	5 56	5 56	5 56	5 55	5 55	5 55	5 54	5 54	5 53	5 53	5 53
4 15 N	Apr. 1	5 53	5 52	5 52	5 52	5 51	5 51	5 50	5 50	5 49	5 49	5 48	5 48	5 47	5 46	5 46	5 45
6 09	6	5 48	5 48	5 47	5 47	5 46	5 45	5 45	5 44	5 44	5 43	5 42	5 42	5 41	5 40	5 39	5 38
8 02	11	5 44	5 43	5 42	5 42	5 41	5 40	5 40	5 39	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 31
9 51	16	5 40	5 39	5 38	5 37	5 36	5 35	5 34	5 34	5 32	5 31	5 30	5 29	5 28	5 27	5 26	5 24
11 35	21	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29	5 27	5 26	5 25	5 24	5 22	5 21	5 20	5 19
13 15 N	26	5 32	5 31	5 30	5 29	5 28	5 26	5 25	5 24	5 22	5 21	5 20	5 18	5 17	5 15	5 13	5 12
14 50 N	May 1	5 29	5 28	5 26	5 25	5 24	5 22	5 21	5 20	5 18	5 16	5 15	5 13	5 12	5 10	5 08	5 06
16 19	6	5 26	5 25	5 23	5 22	5 20	5 19	5 17	5 16	5 14	5 12	5 11	5 09	5 07	5 05	5 03	5 01
17 42	11	5 24	5 22	5 20	5 19	5 17	5 15	5 14	5 12	5 10	5 08	5 07	5 05	5 03	5 01	5 00	4 58
18 55	16	5 21	5 20	5 18	5 16	5 15	5 13	5 11	5 09	5 07	5 05	5 03	5 01	4 59	4 57	4 55	4 52
19 58	21	5 20	5 18	5 16	5 14	5 12	5 10	5 09	5 07	5 05	5 02	5 00	4 58	4 56	4 54	4 51	4 49
21 00	26	5 19	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 02	5 00	4 58	4 56	4 54	4 51	4 49	4 46
21 48 N	31	5 18	5 16	5 14	5 12	5 10	5 08	5 06	5 03	5 01	4 59	4 56	4 54	4 52	4 49	4 46	4 44
22 28 N	June 5	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 02	5 00	4 58	4 55	4 53	4 50	4 48	4 45	4 43
22 57	10	5 17	5 15	5 13	5 11	5 09	5 07	5 04	5 02	5 00	4 58	4 55	4 53	4 50	4 47	4 45	4 42
23 17	15	5 18	5 16	5 13	5 12	5 09	5 07	5 05	5 02	5 00	4 58	4 55	4 53	4 50	4 47	4 45	4 42
23 26	20	5 19	5 17	5 14	5 13	5 10	5 08	5 06	5 03	5 01	4 58	4 56	4 54	4 51	4 48	4 46	4 43
23 25	25	5 20	5 18	5 15	5 14	5 11	5 09	5 07	5 05	5 02	5 00	4 57	4 55	4 52	4 49	4 46	4 43
23 14 N	30	5 21	5 19	5 17	5 15	5 13	5 11	5 08	5 06	5 04	5 01	4 59	4 56	4 54	4 51	4 49	4 46
22 52 N	July 5	5 23	5 21	5 19	5 17	5 15	5 12	5 10	5 08	5 06	5 03	5 01	4 59	4 56	4 53	4 51	4 48
22 21	10	5 25	5 23	5 21	5 19	5 17	5 15	5 12	5 10	5 08	5 06	5 03	5 01	4 59	4 56	4 54	4 51
21 40	15	5 27	5 25	5 23	5 21	5 19	5 17	5 15	5 13	5 11	5 08	5 06	5 04	5 01	4 59	4 57	4 54
20 50	20	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 02	5 00	4 58
19 50	25	5 31	5 29	5 27	5 26	5 23	5 22	5 20	5 18	5 16	5 14	5 12	5 10	5 08	5 06	5 04	5 02
18 43 N	30	5 33	5 31	5 29	5 28	5 26	5 24	5 23	5 21	5 19	5 17	5 15	5 13	5 11	5 09	5 07	5 05
17 28 N	Aug. 4	5 34	5 33	5 32	5 30	5 28	5 27	5 25	5 24	5 22	5 20	5 18	5 17	5 15	5 13	5 11	5 10
16 06	9	5 36	5 35	5 34	5 32	5 31	5 29	5 28	5 26	5 25	5 23	5 22	5 20	5 18	5 17	5 15	5 13
14 37	14	5 38	5 37	5 36	5 34	5 33	5 32	5 30	5 29	5 28	5 26	5 25	5 23	5 22	5 20	5 19	5 17
13 03	19	5 40	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 30	5 29	5 28	5 26	5 25	5 24	5 23	5 21
11 23	24	5 41	5 40	5 39	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29	5 28	5 27	5 25
9 39 N	29	5 42	5 42	5 41	5 40	5 39	5 38	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29
7 51 N	Sept. 3	5 44	5 43	5 42	5 42	5 41	5 40	5 40	5 39	5 38	5 38	5 37	5 36	5 35	5 34	5 33	5 32
6 00	8	5 45	5 45	5 44	5 44	5 43	5 42	5 42	5 42	5 41	5 40	5 40	5 39	5 39	5 38	5 38	5 37
4 07	13	5 46	5 46	5 46	5 45	5 45	5 44	5 44	5 44	5 43	5 43	5 43	5 42	5 42	5 42	5 41	5 41
2 11	18	5 47	5 47	5 47	5 47	5 47	5 46	5 46	5 46	5 46	5 46	5 46	5 45	5 45	5 45	5 45	5 44
0 15 N	23	5 49	5 49	5 49	5 49	5 49	5 48	5 48	5 49	5 49	5 48	5 48	5 48	5 48	5 48	5 49	5 49
1 42 S	28	5 50	5 50	5 50	5 50	5 50	5 51	5 51	5 51	5 51	5 51	5 51	5 52	5 52	5 52	5 53	5 53
3 39 S	Oct. 3	5 51	5 52	5 52	5 52	5 52	5 53	5 53	5 54	5 54	5 54	5 55	5 55	5 55	5 56	5 56	5 57
5 35	8	5 53	5 53	5 54	5 54	5 55	5 55	5 56	5 56	5 57	5 57	5 58	5 58	5 59	6 00	6 00	6 01
7 28	13	5 54	5 55	5 56	5 56	5 57	5 58	5 58	5 59	6 00	6 00	6 01	6 02	6 03	6 04	6 04	6 05
9 20	18	5 56	5 57	5 58	5 59	6 00	6 00	6 01	6 02	6 03	6 04	6 05	6 06	6 07	6 08	6 08	6 09
11 08	23	5 58	5 59	6 00	6 01	6 02	6 03	6 04	6 05	6 06	6 07	6 08	6 09	6 10	6 12	6 13	6 14
12 51 S	28	6 01	6 02	6 03	6 04	6 05	6 06	6 07	6 08	6 10	6 11	6 12	6 13	6 15	6 16	6 18	6 19
14 30 S	Nov. 2	6 03	6 04	6 06	6 07	6 08	6 09	6 10	6 12	6 13	6 15	6 16	6 17	6 19	6 21	6 22	6 24
16 03	7	6 06	6 07	6 08	6 10	6 11	6 13	6 14	6 15	6 17	6 18	6 20	6 22	6 23	6 25	6 27	6 29
17 29	12	6 09	6 10	6 11	6 13	6 14	6 16	6 18	6 19	6 21	6 22	6 24	6 26	6 28	6 30	6 32	6 34
18 48	17	6 12	6 13	6 15	6 16	6 18	6 20	6 21	6 23	6 25	6 27	6 29	6 30	6 32	6 35	6 37	6 39
19 58	22	6 15	6 16	6 18	6 20	6 22	6 23	6 25	6 27	6 29	6 31	6 33	6 35	6 37	6 39	6 42	6 44
20 59 S	27	6 18	6 20	6 22	6 23	6 25	6 27	6 29	6 31	6 33	6 35	6 37	6 39	6 42	6 44	6 46	6 49
21 51 S	Dec. 2	6 21	6 23	6 25	6 27	6 29	6 31	6 33	6 35	6 37	6 39	6 41	6 43	6 46	6 48	6 51	6 53
22 32	7	6 24	6 26	6 28	6 30	6 32	6 34	6 36	6 38	6 41	6 43	6 45	6 47	6 50	6 52	6 55	6 57
23 02	12	6 28	6 29	6 31	6 33	6 36	6 38	6 40	6 42	6 44	6 46	6 49	6 51	6 54	6 56	6 59	7 01
23 20	17	6 30	6 32	6 34	6 36	6 38	6 41	6 43	6 45	6 47	6 50	6 52	6 54	6 57	6 59	7 02	7 04
23 27	22	6 33	6 35	6 37	6 39	6 40											

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

Declina- tion.	Approx. date.	North Latitude.															
		21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	5 31	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 14	5 12	5 10	5 08	5 05	5 03	5 00	4 57
21 53	11	5 34	5 32	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 04	5 01
21 02	16	5 38	5 36	5 33	5 32	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 13	5 11	5 09	5 06
20 01	21	5 41	5 39	5 37	5 36	5 34	5 32	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 13	5 11
18 50	26	5 44	5 43	5 41	5 39	5 37	5 36	5 35	5 32	5 30	5 28	5 26	5 25	5 22	5 20	5 18	5 16
17 31 S	30	5 48	5 46	5 44	5 43	5 41	5 40	5 38	5 36	5 34	5 33	5 31	5 29	5 27	5 25	5 23	5 21
		5 51	5 49	5 48	5 46	5 45	5 43	5 42	5 40	5 39	5 37	5 36	5 34	5 32	5 30	5 28	5 26
16 04 S	Feb. 5	5 54	5 52	5 51	5 50	5 48	5 47	5 46	5 44	5 43	5 41	5 40	5 38	5 37	5 35	5 33	5 31
14 30	10	5 56	5 55	5 54	5 53	5 52	5 50	5 49	5 48	5 47	5 46	5 44	5 43	5 41	5 40	5 39	5 37
12 51	15	5 59	5 58	5 57	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 48	5 47	5 46	5 45	5 43	5 42
11 06	20	6 01	6 00	6 00	6 00	5 59	5 58	5 57	5 56	5 55	5 53	5 52	5 51	5 50	5 49	5 48	5 47
9 16 S	25	6 03	6 02	6 02	6 01	6 01	6 00	5 59	5 58	5 58	5 57	5 56	5 55	5 54	5 54	5 53	5 52
7 18 S	Mar. 2	6 05	6 05	6 04	6 04	6 03	6 03	6 02	6 01	6 01	6 00	6 00	5 59	5 58	5 58	5 57	5 56
5 23	7	6 07	6 07	6 07	6 06	6 06	6 05	6 04	6 04	6 04	6 03	6 03	6 03	6 02	6 02	6 02	6 01
3 25	12	6 09	6 09	6 09	6 08	6 08	6 08	6 08	6 07	6 07	6 07	6 07	6 06	6 06	6 06	6 06	6 06
1 27 S	17	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10
0 32 N	22	6 12	6 12	6 12	6 12	6 13	6 13	6 13	6 13	6 13	6 13	6 13	6 14	6 14	6 14	6 14	6 14
2 30 N	27	6 14	6 14	6 14	6 14	6 15	6 15	6 15	6 16	6 16	6 16	6 16	6 17	6 17	6 18	6 18	6 18
4 26 N	Apr. 1	6 15	6 16	6 16	6 16	6 17	6 17	6 18	6 18	6 19	6 19	6 20	6 20	6 21	6 21	6 22	6 22
6 21	6	6 17	6 17	6 18	6 18	6 19	6 20	6 20	6 21	6 22	6 22	6 23	6 24	6 24	6 25	6 26	6 27
8 13	11	6 18	6 19	6 20	6 20	6 21	6 22	6 23	6 24	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31
10 01	16	6 20	6 21	6 22	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31	6 33	6 34	6 35
11 46	21	6 21	6 22	6 24	6 24	6 26	6 27	6 28	6 29	6 30	6 31	6 32	6 34	6 35	6 36	6 38	6 39
13 25 N	26	6 23	6 24	6 26	6 27	6 28	6 29	6 30	6 32	6 33	6 34	6 36	6 37	6 39	6 40	6 42	6 43
14 59 N	May 1	6 25	6 26	6 28	6 29	6 30	6 32	6 33	6 35	6 36	6 38	6 39	6 41	6 43	6 44	6 46	6 48
16 27	6	6 27	6 28	6 30	6 31	6 33	6 34	6 36	6 38	6 39	6 41	6 43	6 44	6 46	6 48	6 50	6 52
17 48	11	6 29	6 31	6 32	6 34	6 36	6 37	6 39	6 41	6 42	6 44	6 46	6 48	6 50	6 52	6 54	6 56
19 02	16	6 31	6 33	6 35	6 36	6 38	6 40	6 42	6 44	6 46	6 47	6 49	6 51	6 54	6 56	6 58	7 00
20 04	21	6 33	6 35	6 37	6 39	6 41	6 42	6 44	6 46	6 48	6 50	6 53	6 55	6 57	6 59	7 02	7 04
21 05	26	6 36	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 54	6 56	6 58	7 00	7 03	7 05	7 08
21 53 N	31	6 38	6 40	6 42	6 43	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 01	7 03	7 06	7 09	7 11
22 31 N	June 5	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 54	6 56	6 59	7 01	7 04	7 07	7 09	7 11	7 14
23 00	10	6 41	6 43	6 45	6 48	6 50	6 52	6 54	6 56	6 59	7 01	7 03	7 06	7 09	7 11	7 14	7 17
23 18	15	6 43	6 45	6 47	6 49	6 52	6 54	6 56	6 58	7 00	7 03	7 05	7 08	7 10	7 13	7 16	7 19
23 26	20	6 44	6 46	6 48	6 50	6 53	6 55	6 57	6 59	7 02	7 04	7 07	7 09	7 12	7 15	7 17	7 21
23 24	25	6 45	6 47	6 49	6 51	6 54	6 56	6 58	7 00	7 03	7 05	7 08	7 10	7 13	7 16	7 18	7 21
23 12 N	30	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 01	7 03	7 05	7 08	7 10	7 13	7 16	7 18	7 21
22 50 N	July 5	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 01	7 03	7 05	7 08	7 10	7 12	7 15	7 18	7 21
22 17	10	6 46	6 48	6 49	6 51	6 53	6 55	6 57	7 00	7 02	7 04	7 07	7 09	7 12	7 14	7 17	7 19
21 35	15	6 45	6 47	6 48	6 50	6 52	6 54	6 56	6 59	7 01	7 03	7 05	7 07	7 10	7 12	7 15	7 17
20 44	20	6 43	6 45	6 47	6 49	6 51	6 52	6 54	6 57	6 59	7 01	7 03	7 05	7 07	7 10	7 12	7 14
19 44	25	6 42	6 43	6 45	6 47	6 49	6 50	6 52	6 54	6 56	6 58	7 00	7 02	7 04	7 07	7 09	7 11
18 36 N	30	6 40	6 41	6 43	6 44	6 46	6 48	6 49	6 51	6 53	6 55	6 57	6 59	7 01	7 03	7 05	7 07
17 20 N	Aug. 4	6 37	6 38	6 40	6 41	6 43	6 45	6 46	6 48	6 49	6 51	6 53	6 54	6 56	6 58	7 00	7 02
15 57	9	6 34	6 35	6 37	6 38	6 40	6 41	6 42	6 44	6 45	6 47	6 48	6 50	6 52	6 54	6 56	6 57
14 28	14	6 31	6 32	6 33	6 34	6 36	6 37	6 38	6 40	6 41	6 42	6 44	6 45	6 47	6 48	6 50	6 51
12 53	19	6 27	6 28	6 29	6 30	6 31	6 32	6 34	6 35	6 36	6 37	6 38	6 40	6 41	6 42	6 44	6 45
11 13	24	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 38	6 39
9 29 N	29	6 19	6 19	6 20	6 21	6 22	6 23	6 24	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31	6 32
7 40 N	Sept. 3	6 14	6 15	6 16	6 16	6 17	6 18	6 18	6 19	6 20	6 20	6 21	6 22	6 23	6 24	6 26	6 27
5 49	8	6 10	6 10	6 11	6 11	6 12	6 12	6 13	6 13	6 14	6 14	6 15	6 15	6 16	6 17	6 18	6 19
3 55	13	6 05	6 05	6 06	6 06	6 06	6 06	6 07	6 07	6 08	6 08	6 08	6 09	6 09	6 09	6 10	6 11
2 00	18	6 00	6 00	6 00	6 01	6 01	6 01	6 01	6 01	6 02	6 02	6 02	6 02	6 02	6 02	6 03	6 03
0 03 N	23	5 56	5 56	5 55	5 55	5 55	5 56	5 55	5 55	5 55	5 56	5 56	5 56	5 56	5 56	5 56	5 56
1 54 S	28	5 51	5 51	5 50	5 50	5 50	5 50	5 50	5 50	5 49	5 49	5 49	5 49	5 49	5 49	5 48	5 48
3 51 S	Oct. 3	5 46	5 46	5 46	5 45	5 45	5 45	5 44	5 44	5 44	5 43	5 43	5 43	5 42	5 42	5 41	5 41
5 46	8	5 42	5 41	5 41	5 40	5 40	5 39	5 39	5 38	5 38	5 37	5 37	5 36	5 36	5 35	5 34	5 34
7 40	13	5 38	5 37	5 36	5 36	5 35	5 34	5 34	5 33	5 32	5 32	5 31	5 30	5 29	5 29	5 28	5 27
9 31	18	5 34	5 33	5 32	5 31	5 30	5 30	5 29	5 28	5 27	5 26	5 25	5 24	5 23	5 22	5 21	5 20
11 18	23	5 30	5 29	5 28	5 27	5 26	5 25	5 24	5 23	5 22	5 21	5 20	5 19	5 18	5 17	5 16	5 14
13 02 S	28	5 27	5 26	5 25	5 24	5 22	5 21	5 20	5 19	5 18	5 17	5 15	5 14	5 13	5 11	5 10	5 09
14 40 S	Nov. 2	5 24	5 23	5 22	5 20	5 19	5 18	5 16	5 15	5 14	5 12	5 10	5 10	5 08	5 06	5 05	5 03
16 12	7	5 22	5 20	5 19	5 18	5 16	5 15	5 13	5 12	5 10	5 09	5 07	5 06	5 04	5 02	5 01	4 59
17 38	12	5 20	5 18	5 17	5 16	5 14	5 12	5 11	5 09	5 07	5 06	5 04	5 02	5 00	4 58	4 57	4 55
18 55	17	5 19	5 17	5 15	5 14	5 12	5 10	5 09	5 07	5 05	5 03	5 01	5 00	4 58	4 56	4 54	4 52
20 05	22	5 18	5 16	5 14	5 13	5 10	5 09	5 08	5 06	5 04	5 02	4 59	4 58	4 56	4 53	4 51	4 49
21 05 S	27	5 18	5 16	5 14	5 12	5 10	5 09	5 07	5 05	5 03	5 01	4 58	4 56	4 54	4 52	4 50	4 47
21 55 S	Dec. 2	5 18	5 16	5 14	5 13	5 11	5 09	5 07	5 05	5 02	5 00	4 58	4 56	4 53	4 51	4 49	4 46
22 35	7	5 19	5 17	5 15	5 14	5 11	5 09	5 08	5 05	5 03	5 00	4 58	4 56	4 53	4 51	4 49	4 46
23 04	12	5 21	5 19	5 17	5 15	5 13	5 10	5 08	5 06	5 04	5 02	4 59	4 57	4 54	4 52	4 50	4 47
23 21	17	5 23	5 21	5 19	5 17	5 14	5 12	5 10	5 08								

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	North Latitude.															
		37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°	52°
0 06 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37	6	7 13	7 16	7 19	7 22	7 25	7 28	7 31	7 35	7 39	7 42	7 46	7 50	7 54	7 59	8 03	8 06
21 58	11	7 13	7 16	7 19	7 21	7 24	7 27	7 30	7 33	7 37	7 40	7 44	7 47	7 51	7 55	8 00	8 04
21 06	16	7 12	7 14	7 17	7 20	7 23	7 26	7 29	7 32	7 35	7 38	7 41	7 45	7 49	7 53	7 57	8 01
20 07	21	7 10	7 12	7 14	7 17	7 19	7 22	7 25	7 28	7 31	7 34	7 38	7 41	7 45	7 49	7 53	7 57
18 58	26	7 06	7 09	7 11	7 14	7 16	7 19	7 22	7 24	7 27	7 31	7 34	7 37	7 40	7 43	7 46	7 50
17 39 S	31	7 04	7 06	7 08	7 10	7 12	7 15	7 17	7 19	7 22	7 25	7 28	7 31	7 33	7 37	7 40	7 43
16 13 S	Feb. 5	6 59	7 01	7 03	7 05	7 07	7 09	7 11	7 13	7 16	7 19	7 21	7 24	7 26	7 29	7 32	7 35
14 40	10	6 54	6 56	6 58	7 00	7 01	7 03	7 05	7 07	7 09	7 12	7 14	7 16	7 18	7 21	7 24	7 27
13 01	15	6 48	6 50	6 52	6 54	6 55	6 56	6 59	7 01	7 02	7 04	7 06	7 08	7 10	7 12	7 14	7 16
11 16	20	6 43	6 44	6 46	6 47	6 48	6 49	6 51	6 52	6 54	6 56	6 58	6 59	7 01	7 03	7 05	7 07
9 28 S	25	6 37	6 38	6 40	6 41	6 42	6 43	6 44	6 45	6 46	6 47	6 49	6 50	6 51	6 53	6 55	6 56
7 30 S	Mar. 2	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 37	6 38	6 39	6 40	6 40	6 42	6 43	6 44	6 45
5 34	7	6 22	6 23	6 24	6 25	6 25	6 26	6 27	6 27	6 28	6 28	6 29	6 30	6 31	6 32	6 33	6 34
3 37	12	6 15	6 16	6 16	6 17	6 17	6 17	6 18	6 18	6 19	6 20	6 20	6 21	6 21	6 22	6 22	6 22
1 39 S	17	6 08	6 08	6 09	6 09	6 09	6 09	6 09	6 09	6 09	6 09	6 10	6 10	6 10	6 11	6 11	6 11
0 20 N	22	6 01	6 01	6 01	6 01	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00
2 18 N	27	5 52	5 52	5 53	5 53	5 52	5 52	5 51	5 51	5 50	5 50	5 50	5 50	5 49	5 49	5 48	5 48
4 15 N	Apr. 1	5 45	5 45	5 45	5 45	5 45	5 44	5 43	5 43	5 42	5 41	5 40	5 40	5 39	5 38	5 37	5 36
6 09	6	5 37	5 37	5 37	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 31	5 30	5 28	5 27	5 26	5 24
8 02	11	5 30	5 29	5 29	5 29	5 27	5 26	5 25	5 24	5 23	5 21	5 20	5 19	5 18	5 16	5 15	5 13
9 51	16	5 22	5 22	5 22	5 22	5 21	5 19	5 18	5 16	5 15	5 13	5 12	5 10	5 08	5 06	5 05	5 03
11 35	21	5 17	5 16	5 15	5 14	5 12	5 10	5 09	5 07	5 04	5 03	5 01	4 59	4 57	4 55	4 53	4 50
13 15 N	26	5 10	5 09	5 08	5 07	5 05	5 03	5 01	4 59	4 57	4 55	4 53	4 51	4 49	4 46	4 44	4 41
14 50 N	May 1	5 04	5 02	5 01	5 00	4 58	4 56	4 54	4 52	4 49	4 47	4 45	4 43	4 40	4 37	4 34	4 31
16 19	6	4 59	4 57	4 55	4 54	4 52	4 50	4 47	4 45	4 42	4 40	4 37	4 34	4 32	4 29	4 25	4 22
17 42	11	4 54	4 52	4 50	4 49	4 46	4 44	4 41	4 39	4 36	4 33	4 30	4 27	4 23	4 20	4 16	4 12
18 56	16	4 50	4 48	4 46	4 44	4 41	4 38	4 35	4 32	4 30	4 27	4 23	4 20	4 16	4 13	4 10	4 06
19 58	21	4 46	4 44	4 42	4 40	4 37	4 34	4 31	4 28	4 25	4 21	4 18	4 14	4 10	4 07	4 03	3 58
21 00	26	4 43	4 41	4 38	4 36	4 32	4 29	4 26	4 23	4 20	4 17	4 13	4 09	4 05	4 01	3 56	3 51
21 48 N	31	4 41	4 38	4 36	4 33	4 30	4 26	4 23	4 19	4 16	4 12	4 08	4 04	4 00	3 55	3 51	3 47
22 28 N	June 5	4 40	4 37	4 34	4 31	4 28	4 24	4 21	4 17	4 14	4 10	4 06	4 01	3 57	3 52	3 48	3 43
22 57	10	4 39	4 36	4 33	4 30	4 26	4 23	4 20	4 16	4 12	4 08	4 04	3 59	3 54	3 50	3 45	3 40
23 17	15	4 39	4 36	4 33	4 30	4 26	4 23	4 19	4 15	4 12	4 08	4 03	3 59	3 54	3 49	3 45	3 39
23 26	20	4 40	4 36	4 33	4 30	4 27	4 23	4 20	4 16	4 12	4 08	4 04	3 59	3 54	3 49	3 45	3 39
23 25	25	4 40	4 37	4 34	4 31	4 27	4 24	4 20	4 16	4 13	4 09	4 04	3 59	3 55	3 50	3 44	3 39
23 14 N	30	4 43	4 40	4 37	4 33	4 29	4 26	4 23	4 18	4 15	4 11	4 06	4 02	3 57	3 52	3 47	3 42
22 52 N	July 5	4 45	4 42	4 39	4 36	4 33	4 30	4 26	4 22	4 19	4 15	4 10	4 06	4 02	3 57	3 52	3 46
22 21	10	4 48	4 45	4 42	4 39	4 36	4 33	4 30	4 26	4 22	4 19	4 14	4 10	4 06	4 01	3 56	3 51
21 40	15	4 51	4 48	4 45	4 42	4 39	4 36	4 33	4 29	4 26	4 22	4 18	4 14	4 10	4 05	4 01	3 56
20 50	20	4 55	4 52	4 49	4 46	4 43	4 40	4 37	4 34	4 31	4 27	4 23	4 19	4 16	4 11	4 07	4 03
19 50	25	4 59	4 56	4 53	4 50	4 46	4 43	4 42	4 39	4 36	4 33	4 29	4 25	4 22	4 18	4 13	4 09
18 43 N	30	5 03	5 00	4 57	4 55	4 52	4 50	4 47	4 44	4 41	4 38	4 35	4 32	4 29	4 25	4 21	4 16
17 28 N	Aug. 4	5 07	5 04	5 01	4 59	4 56	4 54	4 51	4 49	4 46	4 43	4 40	4 37	4 34	4 31	4 27	4 23
16 06	9	5 10	5 08	5 06	5 04	5 02	5 00	4 58	4 56	4 53	4 51	4 48	4 45	4 41	4 38	4 35	4 32
14 37	14	5 15	5 13	5 11	5 09	5 07	5 05	5 03	5 01	4 59	4 57	4 54	4 52	4 48	4 45	4 41	4 37
13 03	19	5 19	5 17	5 15	5 14	5 12	5 10	5 09	5 07	5 05	5 03	5 01	4 59	4 55	4 53	4 50	4 46
11 23	24	5 24	5 22	5 20	5 18	5 16	5 15	5 13	5 12	5 10	5 08	5 06	5 04	5 02	5 00	4 58	4 56
9 39 N	29	5 28	5 27	5 25	5 23	5 22	5 21	5 20	5 18	5 17	5 15	5 14	5 12	5 10	5 08	5 06	5 04
7 51 N	Sept. 3	5 31	5 30	5 29	5 28	5 27	5 26	5 26	5 24	5 23	5 22	5 20	5 18	5 17	5 16	5 14	5 13
6 00	8	5 36	5 35	5 34	5 33	5 32	5 31	5 31	5 30	5 29	5 28	5 27	5 25	5 24	5 23	5 22	5 21
4 07	13	5 40	5 39	5 38	5 37	5 36	5 36	5 35	5 34	5 34	5 33	5 32	5 32	5 31	5 29	5 28	5 26
2 11	18	5 45	5 44	5 43	5 42	5 42	5 42	5 41	5 41	5 41	5 40	5 40	5 40	5 39	5 39	5 38	5 37
0 15 N	23	5 49	5 48	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 46	5 45
1 42 S	28	5 53	5 53	5 52	5 52	5 52	5 52	5 53	5 53	5 53	5 53	5 53	5 53	5 54	5 54	5 53	5 54
3 39 S	Oct. 3	5 57	5 57	5 57	5 57	5 57	5 58	5 58	5 59	5 59	6 00	6 00	6 00	6 00	6 01	6 01	6 02
5 35	8	6 02	6 02	6 02	6 02	6 03	6 03	6 04	6 05	6 05	6 06	6 07	6 08	6 08	6 09	6 10	6 10
7 28	13	6 06	6 07	6 07	6 07	6 08	6 09	6 10	6 11	6 12	6 13	6 14	6 15	6 15	6 16	6 18	6 19
9 20	18	6 11	6 12	6 12	6 12	6 12	6 14	6 15	6 16	6 18	6 19	6 20	6 22	6 23	6 25	6 26	6 27
11 08	23	6 15	6 16	6 17	6 18	6 19	6 21	6 22	6 24	6 25	6 27	6 28	6 30	6 31	6 33	6 35	6 37
12 51 S	28	6 20	6 21	6 22	6 23	6 25	6 27	6 28	6 30	6 32	6 34	6 36	6 38	6 39	6 41	6 43	6 46
14 30 S	Nov. 2	6 26	6 27	6 28	6 29	6 31	6 33	6 35	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 52	6 55
16 03	7	6 31	6 32	6 32	6 34	6 36	6 38	6 40	6 42	6 45	6 47	6 50	6 52	6 55	6 57	7 00	7 03
17 29	12	6 36	6 38	6 38	6 40	6 42	6 44	6 47	6 49	6 52	6 54	6 57	7 00	7 02	7 05	7 08	7 11
18 48	17	6 41	6 43	6 44	6 46	6 49	6 51	6 54	6 57	6 59	7 02	7 05	7 08	7 11	7 14	7 18	7 21
19 58	22	6 46	6 48	6 50	6 52	6 55	6 57	7 00	7 03	7 06	7 09	7 12	7 16	7 19	7 22	7 26	7 29
20 59 S	27	6 51	6 53	6 55	6 57	7 00	7 03	7 06	7 09	7 12	7 15	7 19	7 23	7 26	7 29	7 34	7 38
21 51 S	Dec. 2	6 56	6 58	7 00	7 02	7 05	7 08	7 11	7 14	7 17	7 20	7 24	7 28	7 32	7 36	7 41	7 44
22 32	7	7 00	7 03	7 05	7 07	7 10	7 13	7 17	7 20	7 23	7 27	7 31	7 35	7 39	7 43	7 48	7 52
23 02	12	7 04	7 07	7 10	7 11	7 15	7 18	7 21	7 25	7 28	7 32	7 36	7 40	7 44	7 49	7 53	7 58
23 20	17	7 07	7 10	7 13	7 15	7 18	7 21	7 25	7 28	7 32	7 35	7 40	7 44	7 48	7 53	7 57	8 02
23 27	22	7 10	7 13	7 16	7 18	7 21	7 24	7 27									

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

Declina- tion.	Approx. date.	North Latitude.															
		37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°	52°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	4 54	4 51	4 48	4 45	4 42	4 39	4 36	4 33	4 29	4 25	4 21	4 17	4 13	4 09	4 04	3 59
21 53	11	4 58	4 55	4 52	4 50	4 47	4 45	4 42	4 38	4 34	4 31	4 27	4 23	4 19	4 15	4 10	4 05
21 02	16	5 09	5 06	5 03	5 00	4 57	4 55	4 52	4 49	4 46	4 43	4 39	4 35	4 32	4 28	4 24	4 20
20 01	21	5 14	5 12	5 09	5 06	5 03	5 01	4 58	4 55	4 52	4 49	4 46	4 43	4 40	4 36	4 32	4 29
18 50	26	5 18	5 16	5 14	5 11	5 08	5 06	5 04	5 01	4 58	4 55	4 53	4 50	4 47	4 43	4 40	4 36
17 31 S	31	5 24	5 21	5 19	5 17	5 15	5 12	5 11	5 09	5 06	5 04	5 01	4 59	4 56	4 52	4 48	4 45
16 04 S	Feb. 5	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 15	5 12	5 10	5 08	5 06	5 03	5 00	4 58	4 55
14 30	10	5 35	5 33	5 31	5 29	5 27	5 25	5 24	5 22	5 20	5 18	5 16	5 13	5 11	5 09	5 06	5 04
12 51	15	5 41	5 39	5 37	5 35	5 33	5 32	5 30	5 28	5 27	5 25	5 23	5 21	5 20	5 17	5 15	5 13
11 06	20	5 46	5 45	5 43	5 41	5 40	5 39	5 38	5 36	5 35	5 33	5 32	5 30	5 28	5 26	5 25	5 23
9 16 S	25	5 51	5 50	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41	5 39	5 38	5 37	5 35	5 34	5 32
7 18 S	Mar. 2	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 49	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42
5 23	7	6 00	6 00	5 59	5 58	5 59	5 58	5 57	5 56	5 56	5 55	5 55	5 53	5 53	5 52	5 51	5 50
3 25	12	6 05	6 05	6 05	6 04	6 04	6 04	6 04	6 03	6 03	6 02	6 02	6 01	6 01	6 00	6 00	5 59
1 27 S	17	6 10	6 09	6 09	6 09	6 09	6 09	6 08	6 08	6 08	6 08	6 08	6 08	6 07	6 07	6 07	6 07
0 32 N	22	6 14	6 14	6 14	6 14	6 14	6 14	6 14	6 15	6 15	6 15	6 15	6 15	6 15	6 15	6 15	6 16
2 30 N	27	6 19	6 19	6 19	6 19	6 19	6 20	6 20	6 21	6 21	6 22	6 22	6 23	6 23	6 24	6 24	6 24
4 26 N	Apr. 1	6 23	6 24	6 24	6 24	6 25	6 26	6 27	6 27	6 28	6 28	6 29	6 30	6 31	6 32	6 33	6 33
6 21	6	6 27	6 28	6 29	6 29	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 37	6 38	6 38	6 40	6 41
8 13	11	6 32	6 33	6 34	6 34	6 35	6 36	6 37	6 38	6 40	6 41	6 43	6 44	6 46	6 46	6 48	6 50
10 01	16	6 36	6 37	6 39	6 39	6 40	6 42	6 43	6 45	6 46	6 48	6 50	6 51	6 53	6 55	6 56	6 58
11 46	21	6 41	6 42	6 43	6 44	6 46	6 47	6 49	6 51	6 53	6 55	6 57	6 59	7 01	7 03	7 05	7 07
13 25 N	26	6 45	6 46	6 47	6 49	6 51	6 53	6 55	6 57	6 59	7 01	7 03	7 06	7 08	7 10	7 12	7 15
14 59 N	May 1	6 49	6 51	6 53	6 54	6 56	6 58	7 00	7 03	7 05	7 07	7 10	7 13	7 15	7 18	7 20	7 24
16 27	6	6 54	6 56	6 57	6 59	7 01	7 04	7 06	7 09	7 11	7 14	7 17	7 20	7 23	7 26	7 28	7 32
17 48	11	6 58	7 00	7 02	7 04	7 07	7 09	7 12	7 15	7 17	7 20	7 23	7 27	7 30	7 32	7 36	7 40
19 02	16	7 02	7 04	7 07	7 09	7 11	7 14	7 17	7 20	7 23	7 26	7 30	7 33	7 37	7 40	7 44	7 48
20 04	21	7 06	7 09	7 11	7 13	7 16	7 19	7 22	7 25	7 28	7 32	7 35	7 39	7 43	7 46	7 51	7 55
21 06	26	7 10	7 13	7 15	7 18	7 21	7 24	7 26	7 31	7 34	7 37	7 41	7 45	7 49	7 53	7 57	8 02
21 53 N	31	7 14	7 17	7 20	7 22	7 26	7 29	7 32	7 36	7 39	7 43	7 47	7 51	7 55	7 59	8 04	8 09
22 31 N	June 5	7 17	7 20	7 22	7 25	7 28	7 31	7 35	7 38	7 42	7 46	7 50	7 55	7 59	8 03	8 08	8 12
23 00	10	7 20	7 23	7 25	7 28	7 31	7 34	7 37	7 41	7 45	7 49	7 54	7 58	8 03	8 07	8 12	8 17
23 18	15	7 22	7 25	7 28	7 31	7 34	7 38	7 41	7 45	7 49	7 53	7 57	8 02	8 06	8 11	8 16	8 21
23 26	20	7 23	7 26	7 29	7 32	7 36	7 39	7 43	7 47	7 51	7 54	7 59	8 04	8 08	8 13	8 18	8 23
23 24	25	7 24	7 27	7 30	7 33	7 37	7 40	7 44	7 47	7 51	7 55	8 00	8 04	8 09	8 14	8 20	8 24
23 12 N	30	7 24	7 27	7 30	7 33	7 37	7 40	7 43	7 47	7 51	7 55	7 59	8 04	8 08	8 14	8 19	8 25
22 50 N	July 5	7 24	7 27	7 30	7 33	7 37	7 40	7 43	7 47	7 51	7 55	7 59	8 03	8 08	8 13	8 18	8 23
22 17	10	7 22	7 25	7 28	7 31	7 34	7 38	7 41	7 45	7 49	7 52	7 56	8 01	8 05	8 10	8 15	8 19
21 35	15	7 20	7 23	7 26	7 29	7 32	7 35	7 39	7 42	7 45	7 49	7 53	7 57	8 01	8 05	8 10	8 15
20 44	20	7 17	7 20	7 23	7 26	7 29	7 32	7 35	7 38	7 41	7 45	7 48	7 52	7 56	8 01	8 06	8 10
19 44	25	7 13	7 16	7 19	7 22	7 25	7 27	7 30	7 33	7 36	7 39	7 43	7 47	7 50	7 54	7 58	8 02
18 36 N	30	7 09	7 12	7 15	7 17	7 20	7 22	7 25	7 28	7 31	7 33	7 37	7 40	7 43	7 48	7 52	7 56
17 20 N	Aug. 4	7 04	7 07	7 09	7 12	7 14	7 16	7 19	7 21	7 24	7 27	7 30	7 33	7 35	7 40	7 44	7 47
15 57	9	6 59	7 02	7 04	7 06	7 08	7 10	7 12	7 15	7 17	7 19	7 22	7 25	7 27	7 32	7 35	7 38
14 28	14	6 53	6 55	6 57	7 00	7 02	7 04	7 06	7 08	7 10	7 12	7 15	7 16	7 20	7 23	7 25	7 28
12 58	19	6 47	6 49	6 51	6 53	6 55	6 57	6 58	7 00	7 02	7 04	7 06	7 07	7 10	7 13	7 15	7 18
11 13	24	6 40	6 42	6 44	6 46	6 48	6 49	6 50	6 52	6 54	6 55	6 57	6 58	7 01	7 03	7 05	7 07
9 29 N	29	6 33	6 35	6 36	6 38	6 40	6 41	6 42	6 43	6 45	6 46	6 48	6 49	6 51	6 52	6 54	6 56
7 40 N	Sept. 3	6 28	6 29	6 30	6 30	6 32	6 32	6 33	6 35	6 36	6 37	6 38	6 39	6 40	6 42	6 43	6 45
5 49	8	6 20	6 21	6 22	6 22	6 23	6 24	6 25	6 26	6 26	6 27	6 28	6 29	6 30	6 31	6 32	6 33
3 55	13	6 12	6 13	6 14	6 14	6 15	6 15	6 16	6 16	6 17	6 17	6 18	6 19	6 19	6 20	6 21	6 22
2 00	18	6 03	6 04	6 05	6 06	6 06	6 06	6 07	6 07	6 07	6 08	6 08	6 08	6 09	6 09	6 09	6 10
0 03 N	23	5 56	5 57	5 57	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58	5 58
1 54 S	28	5 48	5 49	5 49	5 49	5 49	5 49	5 49	5 48	5 48	5 48	5 48	5 48	5 48	5 47	5 47	5 46
3 51 S	Oct. 3	5 41	5 41	5 41	5 41	5 41	5 40	5 40	5 39	5 39	5 38	5 38	5 37	5 37	5 36	5 36	5 35
5 46	8	5 33	5 33	5 33	5 33	5 33	5 32	5 31	5 30	5 30	5 29	5 28	5 27	5 26	5 25	5 24	5 24
7 40	13	5 26	5 26	5 25	5 25	5 24	5 23	5 22	5 21	5 20	5 19	5 17	5 16	5 15	5 15	5 14	5 12
9 31	18	5 19	5 19	5 19	5 18	5 17	5 16	5 15	5 13	5 12	5 11	5 09	5 08	5 06	5 05	5 03	5 01
11 18	23	5 13	5 12	5 11	5 11	5 10	5 07	5 06	5 04	5 03	5 01	5 00	4 58	4 56	4 55	4 53	4 48
13 02 S	28	5 07	5 06	5 05	5 04	5 02	5 00	4 59	4 57	4 55	4 53	4 51	4 49	4 47	4 46	4 44	4 41
14 40 S	Nov. 2	5 02	5 00	4 59	4 58	4 56	4 54	4 52	4 50	4 48	4 46	4 43	4 41	4 39	4 36	4 33	4 31
16 12	7	4 57	4 55	4 54	4 53	4 51	4 48	4 46	4 44	4 41	4 39	4 37	4 34	4 31	4 29	4 26	4 23
17 38	12	4 53	4 51	4 49	4 48	4 45	4 43	4 41	4 38	4 35	4 33	4 30	4 27	4 24	4 22	4 19	4 16
18 55	17	4 49	4 48	4 46	4 44	4 42	4 38	4 36	4 33	4 30	4 27	4 24	4 21	4 18	4 16	4 12	4 08
20 06	22	4 47	4 45	4 43	4 40	4 38	4 35	4 32	4 29	4 26	4 23	4 20	4 17	4 13	4 09	4 05	4 01
21 05 S	27	4 44	4 42	4 40	4 37	4 34	4 31	4 28	4 25	4 22	4 19	4 15	4 12	4 09	4 05	4 01	3 57
21 55 S	Dec. 2	4 44	4 41	4 38	4 36	4 33	4 30	4 27	4 23	4 20	4 17	4 13	4 09	4 06	4 02	3 57	3 53
22 35	7	4 44	4 41	4 38	4 35	4 32	4 29	4 26	4 22	4 19	4 15	4 11	4 08	4 04	3 59	3 54	3 51
23 04	12	4 44	4 41	4 38	4 36	4 32	4 29	4 26	4 23	4 19	4 15	4 11	4 07	4 03	3 58	3 54	3 50
23 21	17	4 46	4 43	4 40	4 37	4 33	4 30	4 27	4 24	4 20	4 16	4 12	4 08	4 04	3 59	3 54	3 50
23 27	22	4 48	4 45	4 42	4 39	4 36	4 33	4 30									

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

		North Latitude.															
Declina- tion.	Approx. date.	53°	54°	55°	56°	57°	58°	59°	60°	61°	62°	63°	64°	65°	66°	67°	68°
23 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37	6	8 13	8 19	8 24	8 31	8 37	8 45	8 53	9 02	9 11	9 23	9 34	9 49	10 06	10 27	10 57	11 58
21 58	11	8 12	8 17	8 23	8 29	8 35	8 42	8 50	8 59	9 07	9 18	9 29	9 43	9 57	10 18	10 43	11 58
21 08	16	8 09	8 14	8 19	8 25	8 31	8 38	8 45	8 54	9 02	9 11	9 22	9 34	9 47	10 06	10 26	11 58
20 07	21	8 05	8 11	8 16	8 22	8 27	8 33	8 40	8 47	8 55	9 03	9 11	9 22	9 34	9 52	10 08	10 50
19 07	26	8 01	8 07	8 11	8 16	8 21	8 27	8 33	8 39	8 47	8 56	9 05	9 16	9 27	9 40	9 55	10 50
18 58	31	7 54	7 58	8 03	8 07	8 13	8 18	8 23	8 29	8 37	8 44	8 51	9 01	9 11	9 21	9 33	9 45
17 39 S	81	7 46	7 50	7 55	7 59	8 03	8 08	8 12	8 18	8 25	8 31	8 38	8 46	8 54	9 04	9 14	9 25
16 13 S	Feb. 5	7 38	7 41	7 46	7 49	7 53	7 57	8 01	8 06	8 11	8 18	8 23	8 30	8 37	8 45	8 55	9 04
14 40	10	7 30	7 33	7 35	7 40	7 43	7 47	7 50	7 54	7 59	8 03	8 08	8 15	8 21	8 27	8 35	8 45
13 01	15	7 19	7 22	7 25	7 27	7 30	7 33	7 36	7 40	7 44	7 49	7 53	7 58	8 03	8 09	8 16	8 25
11 16	20	7 09	7 11	7 13	7 17	7 19	7 22	7 24	7 27	7 30	7 34	7 37	7 42	7 46	7 50	7 56	8 05
9 28 S	25	6 57	6 59	7 02	7 05	7 06	7 08	7 11	7 13	7 15	7 18	7 21	7 24	7 28	7 31	7 35	7 40
7 30 S	Mar. 2	6 46	6 48	6 50	6 51	6 53	6 54	6 56	6 57	6 59	7 01	7 04	7 07	7 09	7 12	7 14	7 17
5 34	7	6 35	6 36	6 37	6 38	6 39	6 40	6 41	6 43	6 43	6 45	6 47	6 48	6 50	6 52	6 55	6 57
3 37	12	6 23	6 23	6 24	6 25	6 26	6 26	6 27	6 28	6 28	6 30	6 31	6 32	6 33	6 34	6 36	6 37
1 39 S	17	6 11	6 12	6 12	6 12	6 12	6 12	6 12	6 13	6 13	6 14	6 15	6 15	6 14	6 14	6 15	6 16
0 20 N	22	5 59	5 59	5 59	5 59	5 59	5 58	5 58	5 57	5 57	5 57	5 56	5 55	5 55	5 54	5 54	5 55
2 18 N	27	5 47	5 47	5 46	5 46	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 36	5 35	5 34	5 33
4 15 N	Apr. 1	5 35	5 35	5 34	5 33	5 31	5 30	5 29	5 27	5 25	5 24	5 23	5 21	5 19	5 17	5 15	5 13
6 09	6	5 23	5 22	5 20	5 19	5 18	5 16	5 14	5 12	5 10	5 07	5 05	5 02	4 59	4 57	4 54	4 52
8 02	11	5 11	5 10	5 09	5 07	5 05	5 02	5 00	4 57	4 54	4 51	4 48	4 45	4 42	4 38	4 34	4 30
9 51	16	5 01	4 59	4 56	4 54	4 51	4 48	4 45	4 42	4 39	4 35	4 32	4 28	4 23	4 18	4 14	4 08
11 35	21	4 49	4 46	4 43	4 40	4 37	4 34	4 30	4 27	4 24	4 19	4 15	4 10	4 05	3 59	3 52	3 41
13 15 N	26	4 39	4 36	4 33	4 29	4 26	4 22	4 18	4 13	4 09	4 03	3 58	3 53	3 47	3 39	3 31	3 22
14 50 N	May 1	4 28	4 25	4 22	4 18	4 14	4 09	4 05	3 59	3 54	3 48	3 43	3 35	3 28	3 20	3 10	3 00
16 19	6	4 18	4 15	4 11	4 07	4 02	3 57	3 52	3 46	3 40	3 33	3 27	3 18	3 10	2 59	2 48	2 36
17 42	11	4 09	4 06	4 00	3 55	3 51	3 45	3 39	3 32	3 27	3 19	3 12	3 02	2 52	2 40	2 26	2 11
18 55	16	4 01	3 56	3 51	3 47	3 42	3 35	3 29	3 21	3 14	3 06	2 57	2 45	2 34	2 20	2 03	1 43
19 58	21	3 53	3 49	3 44	3 38	3 32	3 25	3 19	3 10	3 02	2 53	2 42	2 29	2 16	1 59	1 38	1 12
21 00	26	3 46	3 42	3 36	3 30	3 23	3 16	3 09	2 59	2 50	2 39	2 29	2 13	1 58	1 37	1 10	0 15
21 48 N	31	3 41	3 35	3 29	3 22	3 16	3 08	3 01	2 50	2 40	2 28	2 16	1 58	1 41	1 16	0 34	-----
22 28 N	June 5	3 37	3 31	3 25	3 18	3 11	3 02	2 54	2 43	2 32	2 19	2 06	1 45	1 25	0 52	-----	-----
22 57	10	3 34	3 28	3 21	3 14	3 07	2 58	2 49	2 38	2 27	2 12	1 58	1 35	1 12	0 23	-----	-----
23 17	15	3 33	3 27	3 20	3 13	3 05	2 56	2 47	2 35	2 23	2 08	1 53	1 27	1 02	Does not set between June 11 and July 11 and June 2 and July 11 and May 3 and July 15 40 days 54 days		
23 26	20	3 33	3 27	3 20	3 12	3 04	2 55	2 46	2 34	2 22	2 07	1 51	1 24	0 57			
23 25	25	3 33	3 26	3 20	3 12	3 04	2 55	2 46	2 35	2 23	2 07	1 51	1 25	0 58			
23 14 N	30	3 35	3 29	3 23	3 15	3 07	2 58	2 49	2 38	2 27	2 12	1 57	1 32	1 08			
22 52 N	July 5	3 40	3 34	3 28	3 21	3 13	3 04	2 56	2 44	2 33	2 19	2 06	1 43	1 21	0 35	-----	-----
22 21	10	3 46	3 40	3 34	3 27	3 19	3 11	3 03	2 52	2 41	2 28	2 14	1 55	1 37	1 04	-----	-----
21 40	15	3 50	3 44	3 38	3 32	3 25	3 17	3 09	3 00	2 51	2 39	2 26	2 10	1 54	1 28	0 50	-----
20 50	20	3 56	3 51	3 46	3 39	3 33	3 26	3 19	3 10	3 02	2 52	2 41	2 27	2 12	1 50	1 25	0 41
19 50	25	4 04	3 59	3 54	3 48	3 42	3 36	3 29	3 21	3 13	3 05	2 55	2 43	2 29	2 11	1 52	1 24
18 43 N	30	4 12	4 07	4 03	3 57	3 52	3 46	3 40	3 33	3 26	3 17	3 07	2 57	2 45	2 31	2 15	1 55
17 28 N	Aug. 4	4 20	4 15	4 11	4 06	4 01	3 55	3 50	3 44	3 37	3 29	3 21	3 11	3 02	2 50	2 37	2 22
16 06	9	4 28	4 24	4 20	4 15	4 11	4 06	4 01	3 56	3 50	3 44	3 37	3 29	3 21	3 12	3 00	2 48
14 37	14	4 37	4 33	4 29	4 25	4 21	4 17	4 13	4 08	4 03	3 57	3 51	3 45	3 38	3 29	3 23	3 10
13 03	19	4 45	4 42	4 38	4 35	4 32	4 28	4 24	4 20	4 16	4 11	4 05	3 59	3 53	3 47	3 38	3 20
11 23	24	4 54	4 51	4 49	4 46	4 43	4 40	4 37	4 33	4 30	4 24	4 20	4 15	4 10	4 04	3 58	3 51
9 39 N	29	5 02	5 00	4 57	4 55	4 52	4 50	4 47	4 44	4 41	4 38	4 34	4 30	4 25	4 21	4 16	4 10
7 51 N	Sept. 3	5 11	5 09	5 07	5 05	5 03	5 00	4 58	4 56	4 53	4 51	4 48	4 44	4 41	4 37	4 33	4 29
6 00	8	5 20	5 18	5 16	5 14	5 13	5 11	5 10	5 08	5 06	5 04	5 02	4 58	4 56	4 53	4 51	4 47
4 07	13	5 27	5 26	5 25	5 24	5 23	5 22	5 21	5 20	5 18	5 17	5 15	5 14	5 12	5 10	5 07	5 05
2 11	18	5 36	5 36	5 36	5 35	5 34	5 34	5 33	5 32	5 32	5 31	5 30	5 28	5 27	5 26	5 24	5 23
0 15 N	23	5 45	5 45	5 44	5 44	5 44	5 44	5 43	5 43	5 43	5 43	5 43	5 43	5 42	5 41	5 41	5 40
1 42 S	28	5 54	5 53	5 53	5 54	5 54	5 54	5 55	5 55	5 55	5 56	5 56	5 56	5 56	5 57	5 57	5 56
3 39 S	Oct. 3	6 03	6 03	6 03	6 04	6 05	6 05	6 06	6 07	6 08	6 09	6 10	6 10	6 12	6 13	6 14	6 16
5 35	8	6 12	6 12	6 13	6 14	6 15	6 16	6 18	6 19	6 21	6 22	6 24	6 25	6 27	6 29	6 31	6 34
7 28	13	6 20	6 22	6 22	6 24	6 26	6 28	6 29	6 31	6 33	6 36	6 38	6 41	6 42	6 46	6 49	6 52
9 20	18	6 29	6 31	6 32	6 34	6 37	6 39	6 41	6 44	6 47	6 49	6 52	6 55	6 58	7 02	7 06	7 11
11 08	23	6 39	6 41	6 42	6 45	6 48	6 50	6 53	6 56	7 00	7 03	7 07	7 10	7 14	7 19	7 25	7 30
12 51 S	28	6 48	6 51	6 52	6 56	6 59	7 02	7 05	7 09	7 13	7 17	7 22	7 26	7 30	7 37	7 43	7 50
14 30 S	Nov. 2	6 58	7 01	7 03	7 06	7 10	7 14	7 18	7 22	7 27	7 32	7 36	7 42	7 48	7 55	8 02	8 10
16 03	7	7 06	7 09	7 12	7 16	7 20	7 24	7 29	7 34	7 39	7 45	7 50	7 57	8 03	8 12	8 20	8 30
17 29	12	7 15	7 19	7 2													

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

Declination.	Approx. date.	North Latitude.															
		53°	54°	55°	56°	57°	58°	59°	60°	61°	62°	63°	64°	65°	66°	67°	68°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 31	6	3 51	3 49	3 48	3 46	3 45	3 44	3 43	3 42	3 41	3 40	3 39	3 38	3 37	3 36	3 35	3 34
21 53	11	4 00	3 58	3 56	3 55	3 54	3 53	3 52	3 51	3 50	3 49	3 48	3 47	3 46	3 45	3 44	3 43
21 02	16	4 07	4 05	4 04	4 03	4 02	4 01	4 00	3 59	3 58	3 57	3 56	3 55	3 54	3 53	3 52	3 51
20 01	21	4 15	4 13	4 12	4 11	4 10	4 09	4 08	4 07	4 06	4 05	4 04	4 03	4 02	4 01	4 00	3 59
18 50	26	4 24	4 22	4 21	4 20	4 19	4 18	4 17	4 16	4 15	4 14	4 13	4 12	4 11	4 10	4 09	4 08
17 31 S	31	4 32	4 30	4 29	4 28	4 27	4 26	4 25	4 24	4 23	4 22	4 21	4 20	4 19	4 18	4 17	4 16
16 04 S	Feb. 5	4 42	4 40	4 39	4 38	4 37	4 36	4 35	4 34	4 33	4 32	4 31	4 30	4 29	4 28	4 27	4 26
14 30	10	4 52	4 50	4 49	4 48	4 47	4 46	4 45	4 44	4 43	4 42	4 41	4 40	4 39	4 38	4 37	4 36
12 51	15	5 01	5 00	4 59	4 58	4 57	4 56	4 55	4 54	4 53	4 52	4 51	4 50	4 49	4 48	4 47	4 46
11 06	20	5 11	5 10	5 09	5 08	5 07	5 06	5 05	5 04	5 03	5 02	5 01	5 00	4 59	4 58	4 57	4 56
9 16 S	25	5 20	5 19	5 18	5 17	5 16	5 15	5 14	5 13	5 12	5 11	5 10	5 09	5 08	5 07	5 06	5 05
7 18 S	Mar. 2	5 31	5 30	5 29	5 28	5 27	5 26	5 25	5 24	5 23	5 22	5 21	5 20	5 19	5 18	5 17	5 16
5 23	7	5 40	5 39	5 38	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29	5 28	5 27	5 26	5 25
3 25	12	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 37	5 36	5 35	5 34
1 27 S	17	5 58	5 57	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43
0 32 N	22	6 07	6 06	6 05	6 04	6 03	6 02	6 01	6 00	5 59	5 58	5 57	5 56	5 55	5 54	5 53	5 52
2 30 N	27	6 16	6 15	6 14	6 13	6 12	6 11	6 10	6 09	6 08	6 07	6 06	6 05	6 04	6 03	6 02	6 01
4 26 N	Apr. 1	6 25	6 24	6 23	6 22	6 21	6 20	6 19	6 18	6 17	6 16	6 15	6 14	6 13	6 12	6 11	6 10
6 21	6	6 34	6 33	6 32	6 31	6 30	6 29	6 28	6 27	6 26	6 25	6 24	6 23	6 22	6 21	6 20	6 19
8 13	11	6 43	6 42	6 41	6 40	6 39	6 38	6 37	6 36	6 35	6 34	6 33	6 32	6 31	6 30	6 29	6 28
10 01	16	6 52	6 51	6 50	6 49	6 48	6 47	6 46	6 45	6 44	6 43	6 42	6 41	6 40	6 39	6 38	6 37
11 46	21	7 00	7 00	6 59	6 58	6 57	6 56	6 55	6 54	6 53	6 52	6 51	6 50	6 49	6 48	6 47	6 46
13 25 N	26	7 09	7 08	7 07	7 06	7 05	7 04	7 03	7 02	7 01	7 00	6 59	6 58	6 57	6 56	6 55	6 54
14 59 N	May 1	7 18	7 17	7 16	7 15	7 14	7 13	7 12	7 11	7 10	7 09	7 08	7 07	7 06	7 05	7 04	7 03
16 27	6	7 27	7 26	7 25	7 24	7 23	7 22	7 21	7 20	7 19	7 18	7 17	7 16	7 15	7 14	7 13	7 12
17 48	11	7 36	7 35	7 34	7 33	7 32	7 31	7 30	7 29	7 28	7 27	7 26	7 25	7 24	7 23	7 22	7 21
19 02	16	7 44	7 43	7 42	7 41	7 40	7 39	7 38	7 37	7 36	7 35	7 34	7 33	7 32	7 31	7 30	7 29
20 04	21	7 52	7 51	7 50	7 49	7 48	7 47	7 46	7 45	7 44	7 43	7 42	7 41	7 40	7 39	7 38	7 37
21 05	26	8 00	8 00	7 59	7 58	7 57	7 56	7 55	7 54	7 53	7 52	7 51	7 50	7 49	7 48	7 47	7 46
21 53 N	31	8 07	8 07	8 06	8 05	8 04	8 03	8 02	8 01	8 00	7 59	7 58	7 57	7 56	7 55	7 54	7 53
22 31 N	June 5	8 15	8 15	8 14	8 13	8 12	8 11	8 10	8 09	8 08	8 07	8 06	8 05	8 04	8 03	8 02	8 01
23 00	10	8 23	8 23	8 22	8 21	8 20	8 19	8 18	8 17	8 16	8 15	8 14	8 13	8 12	8 11	8 10	8 09
23 18	15	8 31	8 31	8 30	8 29	8 28	8 27	8 26	8 25	8 24	8 23	8 22	8 21	8 20	8 19	8 18	8 17
23 26	20	8 39	8 39	8 38	8 37	8 36	8 35	8 34	8 33	8 32	8 31	8 30	8 29	8 28	8 27	8 26	8 25
23 24	25	8 47	8 47	8 46	8 45	8 44	8 43	8 42	8 41	8 40	8 39	8 38	8 37	8 36	8 35	8 34	8 33
23 12 N	30	8 55	8 55	8 54	8 53	8 52	8 51	8 50	8 49	8 48	8 47	8 46	8 45	8 44	8 43	8 42	8 41
22 50 N	July 5	9 03	9 03	9 02	9 01	9 00	8 59	8 58	8 57	8 56	8 55	8 54	8 53	8 52	8 51	8 50	8 49
22 17	10	9 11	9 11	9 10	9 09	9 08	9 07	9 06	9 05	9 04	9 03	9 02	9 01	9 00	8 59	8 58	8 57
21 35	15	9 19	9 19	9 18	9 17	9 16	9 15	9 14	9 13	9 12	9 11	9 10	9 09	9 08	9 07	9 06	9 05
20 44	20	9 27	9 27	9 26	9 25	9 24	9 23	9 22	9 21	9 20	9 19	9 18	9 17	9 16	9 15	9 14	9 13
19 44	25	9 35	9 35	9 34	9 33	9 32	9 31	9 30	9 29	9 28	9 27	9 26	9 25	9 24	9 23	9 22	9 21
18 36 N	30	9 43	9 43	9 42	9 41	9 40	9 39	9 38	9 37	9 36	9 35	9 34	9 33	9 32	9 31	9 30	9 29
17 20 N	Aug. 4	9 51	9 51	9 50	9 49	9 48	9 47	9 46	9 45	9 44	9 43	9 42	9 41	9 40	9 39	9 38	9 37
15 57	9	10 00	10 00	9 59	9 58	9 57	9 56	9 55	9 54	9 53	9 52	9 51	9 50	9 49	9 48	9 47	9 46
14 28	14	10 08	10 08	10 07	10 06	10 05	10 04	10 03	10 02	10 01	10 00	9 59	9 58	9 57	9 56	9 55	9 54
12 53	19	10 16	10 16	10 15	10 14	10 13	10 12	10 11	10 10	10 09	10 08	10 07	10 06	10 05	10 04	10 03	10 02
11 13	24	10 24	10 24	10 23	10 22	10 21	10 20	10 19	10 18	10 17	10 16	10 15	10 14	10 13	10 12	10 11	10 10
9 29 N	29	10 32	10 32	10 31	10 30	10 29	10 28	10 27	10 26	10 25	10 24	10 23	10 22	10 21	10 20	10 19	10 18
7 40 N	Sept. 3	10 40	10 40	10 39	10 38	10 37	10 36	10 35	10 34	10 33	10 32	10 31	10 30	10 29	10 28	10 27	10 26
5 49	8	10 48	10 48	10 47	10 46	10 45	10 44	10 43	10 42	10 41	10 40	10 39	10 38	10 37	10 36	10 35	10 34
3 55	13	10 56	10 56	10 55	10 54	10 53	10 52	10 51	10 50	10 49	10 48	10 47	10 46	10 45	10 44	10 43	10 42
2 00	18	11 04	11 04	11 03	11 02	11 01	11 00	10 59	10 58	10 57	10 56	10 55	10 54	10 53	10 52	10 51	10 50
0 03 N	23	11 12	11 12	11 11	11 10	11 09	11 08	11 07	11 06	11 05	11 04	11 03	11 02	11 01	11 00	10 59	10 58
1 54 S	28	11 20	11 20	11 19	11 18	11 17	11 16	11 15	11 14	11 13	11 12	11 11	11 10	11 09	11 08	11 07	11 06
3 51 S	Oct. 8	11 28	11 28	11 27	11 26	11 25	11 24	11 23	11 22	11 21	11 20	11 19	11 18	11 17	11 16	11 15	11 14
5 46	13	11 36	11 36	11 35	11 34	11 33	11 32	11 31	11 30	11 29	11 28	11 27	11 26	11 25	11 24	11 23	11 22
7 40	18	11 44	11 44	11 43	11 42	11 41	11 40	11 39	11 38	11 37	11 36	11 35	11 34	11 33	11 32	11 31	11 30
9 31	23	11 52	11 52	11 51	11 50	11 49	11 48	11 47	11 46	11 45	11 44	11 43	11 42	11 41	11 40	11 39	11 38
11 18	28	12 00	12 00	11 59	11 58	11 57	11 56	11 55	11 54	11 53	11 52	11 51	11 50	11 49	11 48	11 47	11 46
13 02 S	31	12 08	12 08	12 07	12 06	12 05	12 04	12 03	12 02	12 01	12 00	11 59	11 58	11 57	11 56	11 55	11 54
14 40 S	Nov. 2	12 16	12 16	12 15	12 14	12 13	12 12	12 11	12 10	12 09	12 08	12 07	12 06	12 05	12 04	12 03	12 02
16 12	7	12 24	12 24	12 23	12 22	12 21	12 20	12 19	12 18	12 17	12 16	12 15	12 14	12 13	12 12	12 11	12 10
17 38	12	12 32	12 32	12 31	12 30	12 29	12 28	12 27	12 26	12 25	12 24	12 23	12 22	12 21	12 20	12 19	12 18
18 55	17	12 40	12 40	12 39	12 38	12 37	12 36	12 35	12 34	12 33	12 32	12 31	12 30	12 29	12 28	12 27	12 26
20 05	22	12 48	12 48	12 47	12 46	12 45	12 44	12 43	12 42	12 41	12 40	12 39	12 38	12 37	12 36	12 35	12 34
21 05 S	27	12 56	12 56	12 55	12 54	12 53	12 52	12 51	12 50	12 49	12 48	12 47	12 46	12 45	12 44	12 43	12 42
21 55 S	Dec. 2	13 04	13 04	13 03	13 02	13 01	13 00	12 59	12 58	12 57	12 56	12 55	12 54	12 53	12 52	12 51	12 50
22 35	7	13 12	13 12	13 11	13 10	13 09	13 08	13 07	13 06	13 05	13 04	13 03	13 02	13 01	13 00	12 59	12 58
23 04	12	13 20	13 20	13													

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	North Latitude.															
		69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	80°	82°	84°	86°	88°	90°
23 068	Jan. 1	Rises	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.
22 37	6	Jan. 11	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—	Sun does not rise—
21 58	11	11 52	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
21 08	16	11 06	Jan. 16	Jan. 21	Jan. 25	Jan. 29	Jan. 31	Feb. 2	Feb. 6	Feb. 9	Feb. 11	Feb. 14	Feb. 17	Feb. 20	Feb. 23	Feb. 26	Feb. 29
20 07	21	10 35	11 03	10 56	11 38	11 18	10 44	10 23	11 08	11 53	12 38	13 23	14 08	14 53	15 38	16 23	17 08
18 58	26	10 05	10 28	10 56	11 38	11 18	10 44	10 23	11 08	11 53	12 38	13 23	14 08	14 53	15 38	16 23	17 08
17 398	31	9 39	9 66	10 16	11 18	11 18	10 44	10 23	11 08	11 53	12 38	13 23	14 08	14 53	15 38	16 23	17 08
16 188	Feb. 5	9 15	9 28	9 43	10 08	10 23	11 08	11 53	12 38	13 23	14 08	14 53	15 38	16 23	17 08	17 53	18 38
14 40	10	8 58	9 03	9 14	9 28	9 44	10 08	10 31	11 28	12 13	12 58	13 43	14 28	15 13	15 58	16 43	17 28
13 01	15	8 29	8 38	8 48	8 58	9 11	9 25	9 43	10 11	10 36	11 01	11 26	11 51	12 16	12 41	13 06	13 31
11 16	20	8 07	8 14	8 22	8 30	8 39	8 51	9 08	9 18	9 38	10 10	10 35	11 00	11 25	11 50	12 15	12 40
9 288	25	7 45	7 30	7 56	8 02	8 09	8 18	8 28	8 40	8 54	9 12	10 06	10 31	10 56	11 21	11 46	12 11
7 308	Mar. 2	7 22	7 26	7 31	7 35	7 40	7 47	7 55	8 03	8 13	8 25	8 55	9 52	10 49	11 46	12 43	13 40
5 34	7	6 59	7 52	7 06	7 09	7 13	7 17	7 22	7 28	7 34	7 41	8 00	8 32	9 33	10 34	11 35	12 36
3 37	12	6 38	6 39	6 41	6 43	6 45	6 48	6 51	6 54	6 57	7 02	7 11	7 28	7 56	8 24	8 52	9 20
1 398	17	6 16	6 16	6 16	6 18	6 18	6 19	6 19	6 21	6 21	6 22	6 25	6 29	6 36	6 50	7 32	8 14
0 20N	22	5 54	5 58	5 52	5 52	5 50	5 49	5 48	5 47	5 45	5 43	5 38	5 31	5 18	4 53	3 30	2 12
2 18N	27	5 31	5 29	5 26	5 25	5 22	5 20	5 17	5 14	5 09	5 06	4 51	4 31	3 55	2 30	1 02	0 00
4 15N	Apr. 1	5 09	5 06	5 03	5 00	4 55	5 01	4 45	4 40	4 32	4 24	4 00	3 23	2 05	0 37	0 00	0 00
6 09	6	4 47	4 42	4 37	4 32	4 26	4 19	4 12	3 53	3 53	3 40	3 03	1 54	0 26	0 00	0 00	0 00
8 02	11	4 24	4 18	4 12	4 05	3 58	3 49	3 39	3 28	3 10	2 51	1 47	0 46	0 00	0 00	0 00	0 00
9 51	16	4 01	3 58	3 45	3 36	3 25	3 12	2 58	2 40	2 15	1 45	0 46	0 00	0 00	0 00	0 00	0 00
11 85	21	3 37	3 28	3 17	3 05	2 52	2 34	2 13	1 47	0 46	0 00	0 00	0 00	0 00	0 00	0 00	0 00
13 15N	26	3 13	3 01	2 48	2 33	2 13	1 48	1 08	0 46	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
14 50N	May 1	2 47	2 33	2 15	1 55	1 25	0 37	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
16 19	6	2 20	2 02	1 37	1 05	0 46	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
17 42	11	1 50	1 24	0 43	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
18 55	16	1 13	0 25	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
19 58	21	0 44	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
21 00	26	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
21 48N	31	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
22 28N	June 5	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—
22 57	10	May 21	May 16	May 12	May 9	May 5	May 2	Apr. 28	Apr. 25	Apr. 22	Apr. 19	Apr. 14	Apr. 8	Apr. 3	Mar. 29	Mar. 24	Mar. 19
23 17	15	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 26	20	July 23	July 27	July 31	Aug. 4	Aug. 8	Aug. 12	Aug. 15	Aug. 18	Aug. 22	Aug. 24	Aug. 29	Sept. 4	Sept. 9	Sept. 15	Sept. 20	Sept. 26
23 25	25	64	73	81	88	96	103	110	116	123	128	138	150	160	171	181	192
23 14N	30	days	days	days	days	days	days	days	days	days	days	days	days	days	days	days	days
22 52N	July 5	0 44	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
22 21	10	0 44	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
21 40	15	0 44	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
20 50	20	0 44	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
19 50	25	0 44	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
18 43N	30	1 29	0 51	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
17 28N	Aug. 4	2 04	1 41	1 09	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
16 06	9	2 35	2 16	1 57	1 23	1 44	1 00	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
14 37	14	2 58	2 45	2 20	2 10	2 26	2 05	1 35	0 44	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
13 08	19	3 20	3 10	2 56	2 44	3 00	2 44	2 26	2 01	1 27	1 55	2 24	2 53	3 22	3 51	4 20	4 49
11 23	24	3 43	3 34	3 25	3 13	3 30	3 18	3 06	2 45	2 37	1 55	2 24	2 53	3 22	3 51	4 20	4 49
9 39N	29	4 03	3 57	3 49	3 40	3 30	3 18	3 06	2 45	2 37	1 55	2 24	2 53	3 22	3 51	4 20	4 49
7 51N	Sept. 3	4 23	4 18	4 12	4 06	3 57	3 48	3 37	3 24	3 08	2 49	1 54	1 58	2 08	2 30	3 29	4 28
6 00	8	4 43	4 59	4 33	4 29	4 22	4 16	4 08	4 00	3 48	3 36	3 03	1 58	2 08	2 30	3 29	4 28
4 07	13	5 02	4 59	4 56	4 53	4 48	4 44	4 38	4 33	4 25	4 17	3 56	4 23	3 50	4 44	5 43	6 42
2 11	18	5 20	5 19	5 17	5 15	5 12	5 10	5 06	5 03	4 57	4 54	4 42	4 23	3 50	4 44	5 43	6 42
0 15N	23	5 39	5 39	5 38	5 38	5 36	5 26	5 34	5 33	5 31	5 29	5 25	5 18	5 07	4 44	3 29	2 12
1 428	28	5 59	5 59	5 59	6 00	6 00	6 01	6 01	6 03	6 03	6 04	6 08	6 12	6 20	6 35	7 21	8 10
3 398	Oct. 3	6 17	6 18	6 21	6 22	6 23	6 26	6 26	6 31	6 34	6 38	6 51	7 08	7 36	8 40	9 50	11 00
5 35	8	6 35	6 39	6 42	6 45	6 48	6 52	6 52	7 02	7 08	7 15	7 37	8 09	9 10	10 20	11 30	12 40
7 28	13	6 55	6 59	7 04	7 08	7 13	7 19	7 19	7 34	7 43	7 55	8 28	9 24	10 34	11 44	12 54	14 04
9 20	18	7 15	7 20	7 26	7 32	7 39	7 47	7 47	8 07	8 20	8 41	9 32	10 34	11 44	12 54	14 04	15 14
11 08	23	7 36	7 42	7 50	7 58	8 07	8 18	8 18	8 49	9 08	9 36	10 34	11 44	12 54	14 04	15 14	16 24
12 518	28	7 57	8 05	8 14	8 25	8 38	8 52	8 52	9 35	10 15	11 15	12 15	13 15	14 15	15 15	16 24	17 34
14 308	Nov. 2	8 19	8 29	8 40	8 54	9 11	9 33	10 04	10 45	11 15	12 15	13 15	14 15	15 15	16 24	17 34	18 44
16 03	7	8 42	8 55	9 10	9 28	9 54	10 25	11 04	11 45	12 15	13 15	14 15	15 15	16 24	17 34	18 44	19 54
17 29	12	9 06	9 23	9 42	10 09	11 10	11 45	12 15	12 45	13 15	14 15	15 15	16 24	17 34	18 44	19 54	21 04
18 48	17	9 31	9 54	10 22	11 16	12 15	12 45	13 15	13 45	14 15	15 15	16 24	17 34	18 44	19 54	21 04	22 14
19 58	22	9 58	10 31	11 09	11 53	12 45	13 15	13 45	14 15	15 15	16 24	17 34	18 44	19 54	21 04	22 14	23 24
20 598	27	10 34	11 16	12 04	12 45	13 15	13 45	14 15	14 45	15 15	16 24	17 34	18 44	19 54	21 04	22 14	23 24
21 518	Dec. 2	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—
22 32	7	Dec. 3	Nov. 27	Nov. 22	Nov. 18	Nov. 14	Nov. 10	Nov. 6	Nov. 4	Nov. 1	Oct. 28	Oct. 23	Oct. 17	Oct. 12	Oct. 7	Oct. 1	Sept. 27
23 02	12	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 20	17	Jan. 10	Jan. 16	Jan. 21	Jan. 25	Jan. 29	Jan. 31	Feb. 2	Feb. 6	Feb. 9	Feb. 11	Feb. 14	Feb. 17	Feb. 20	Feb. 23		

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

Declination.	Approx. date.	North Latitude.															
		69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	80°	82°	84°	86°	88°	90°
23 03S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	Jan. 11	Rises	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise	Sun does not rise
21 58	Jan. 11	0 34	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
21 02	Jan. 16	1 24	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16	Jan. 16
20 01	Jan. 21	1 52	1 25	1 34	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38
18 50	Jan. 26	2 24	2 08	1 54	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38
17 31S	Jan. 31	2 50	2 34	2 14	1 48	1 03	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38
16 04S	Feb. 5	3 16	3 03	2 47	2 29	2 06	1 32	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38
14 30	Feb. 10	3 40	3 29	3 16	3 02	2 45	2 26	2 00	1 13	0 38	0 38	0 38	0 38	0 38	0 38	0 38	0 38
12 51	Feb. 15	4 02	3 53	3 44	3 33	3 19	3 08	2 47	2 23	1 37	0 42	0 38	0 38	0 38	0 38	0 38	0 38
11 06	Feb. 20	4 23	4 16	4 09	4 00	3 50	3 39	3 26	3 10	2 50	2 24	0 38	0 38	0 38	0 38	0 38	0 38
9 16S	Feb. 25	4 44	4 38	4 33	4 26	4 18	4 10	4 01	3 50	3 37	3 31	2 29	0 38	0 38	0 38	0 38	0 38
7 18S	Mar. 2	5 06	5 02	4 57	4 52	4 46	4 41	4 33	4 26	4 16	4 06	3 36	2 42	0 38	0 38	0 38	0 38
5 23	Mar. 7	5 25	5 23	5 19	5 16	5 12	5 08	5 03	4 58	4 52	4 45	4 27	3 57	3 00	0 38	0 38	0 38
3 25	Mar. 12	5 44	5 43	5 41	5 40	5 37	5 35	5 32	5 29	5 26	5 22	5 14	4 58	4 33	3 37	0 38	0 38
1 27S	Mar. 17	6 34	6 04	6 03	6 03	6 02	6 01	6 00	6 00	5 59	5 59	5 57	5 54	5 49	5 39	5 09	Rises
0 32N	Mar. 22	6 28	6 24	6 24	6 25	6 26	6 27	6 28	6 30	6 32	6 34	6 41	6 50	7 06	7 33	9 16	Mar. 19
2 30N	Mar. 27	6 42	6 44	6 46	6 48	6 50	6 54	6 57	7 01	7 06	7 11	7 26	7 47	8 25	10 02	11 48	Mar. 19
4 26N	Apr. 1	7 02	7 06	7 08	7 12	7 16	7 21	7 26	7 33	7 40	7 48	8 13	8 52	10 18	11 48	13 24	Mar. 19
6 21	Apr. 6	7 21	7 26	7 30	7 36	7 42	7 49	7 57	8 07	8 18	8 28	9 09	10 24	11 48	13 24	15 00	Mar. 19
8 13	Apr. 11	7 40	7 47	7 52	8 00	8 08	8 17	8 29	8 43	9 00	9 14	10 25	11 48	13 24	15 00	16 36	Mar. 19
10 01	Apr. 16	8 01	8 09	8 17	8 27	8 36	8 49	9 05	9 25	9 46	10 22	11 48	13 24	15 00	16 36	18 12	Mar. 19
11 46	Apr. 21	8 23	8 32	8 43	8 55	9 08	9 25	9 49	10 18	10 54	11 48	13 24	15 00	16 36	18 12	19 48	Mar. 19
13 25N	Apr. 26	8 44	8 57	9 11	9 26	9 45	10 12	11 02	11 48	12 34	13 24	15 00	16 36	18 12	19 48	21 24	Mar. 19
14 59N	May 1	9 07	9 24	9 40	10 03	10 32	11 34	12 02	12 34	13 24	14 10	15 00	16 36	18 12	19 48	21 24	Mar. 19
16 27	May 6	9 35	9 54	10 14	10 56	11 34	12 02	12 34	13 24	14 10	15 00	16 36	18 12	19 48	21 24	23 00	Mar. 19
17 48	May 11	10 02	10 31	11 17	11 55	12 34	13 02	13 34	14 10	15 00	16 36	18 12	19 48	21 24	23 00	24 36	Mar. 19
19 02	May 16	10 40	11 43	12 21	13 00	13 34	14 10	15 00	16 36	18 12	19 48	21 24	23 00	24 36	26 12	27 48	Mar. 19
20 04	May 21	11 02	12 05	12 43	13 22	14 00	14 34	15 00	16 36	18 12	19 48	21 24	23 00	24 36	26 12	27 48	Mar. 19
21 05	May 26	11 24	12 27	13 05	13 44	14 22	15 00	15 34	16 36	18 12	19 48	21 24	23 00	24 36	26 12	27 48	Mar. 19
21 53N	May 31	11 46	12 49	13 27	14 06	14 44	15 22	16 00	16 36	18 12	19 48	21 24	23 00	24 36	26 12	27 48	Mar. 19
22 31N	June 5	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—	Sun does not set between—
23 00	June 10	May 21	May 16	May 12	May 9	May 5	May 2	Apr. 28	Apr. 25	Apr. 22	Apr. 19	Apr. 14	Apr. 8	Apr. 3	Mar. 29	Mar. 24	Mar. 19
23 18	June 15	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 26	June 20	July 23; July 27;	July 31; Aug. 4;	Aug. 8; Aug. 12;	Aug. 16; Aug. 20;	Aug. 24; Aug. 28;	Aug. 31; Sept. 4;	Sept. 7; Sept. 11;	Sept. 14; Sept. 18;	Sept. 21; Sept. 25;	Sept. 28; Oct. 2;	Oct. 5; Oct. 9;	Oct. 12; Oct. 16;	Oct. 19; Oct. 23;	Oct. 26; Oct. 30;	Nov. 2; Nov. 6;	Nov. 9; Nov. 13;
23 24	June 25	64	73	81	88	96	103	110	116	123	128	133	138	143	148	153	158
23 12N	June 30	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.
22 50N	July 5	10 05	10 27	10 56	11 31	12 02	12 34	13 02	13 34	14 10	15 00	16 36	18 12	19 48	21 24	23 00	24 36
22 17	July 10	9 35	9 52	10 12	10 31	11 19	11 50	12 19	12 48	13 17	13 46	14 15	14 44	15 13	15 42	16 11	16 40
21 35	July 15	9 09	9 22	9 37	9 55	10 19	10 43	11 07	11 31	11 55	12 19	12 43	13 07	13 31	13 55	14 19	14 43
20 44	July 20	8 43	8 54	9 06	9 20	9 37	9 52	10 08	10 23	10 38	10 53	11 08	11 23	11 38	11 53	12 08	12 23
19 44	July 25	8 19	8 28	8 37	8 47	9 02	9 18	9 37	9 52	10 07	10 22	10 37	10 52	11 07	11 22	11 37	11 52
18 36N	July 30	7 55	8 03	8 10	8 18	8 29	8 40	8 55	9 12	9 34	10 01	10 28	10 55	11 22	11 49	12 16	12 43
17 20N	Aug. 4	10 05	10 27	10 56	11 31	12 02	12 34	13 02	13 34	14 10	15 00	16 36	18 12	19 48	21 24	23 00	24 36
15 57	Aug. 9	9 35	9 52	10 12	10 31	11 19	11 50	12 19	12 48	13 17	13 46	14 15	14 44	15 13	15 42	16 11	16 40
14 28	Aug. 14	9 09	9 22	9 37	9 55	10 19	10 43	11 07	11 31	11 55	12 19	12 43	13 07	13 31	13 55	14 19	14 43
12 53	Aug. 19	8 43	8 54	9 06	9 20	9 37	9 52	10 08	10 23	10 38	10 53	11 08	11 23	11 38	11 53	12 08	12 23
11 13	Aug. 24	8 19	8 28	8 37	8 47	9 02	9 18	9 37	9 52	10 07	10 22	10 37	10 52	11 07	11 22	11 37	11 52
9 29N	Aug. 29	7 55	8 03	8 10	8 18	8 29	8 40	8 55	9 12	9 34	10 01	10 28	10 55	11 22	11 49	12 16	12 43
7 40N	Sept. 3	7 32	7 38	7 44	7 51	7 59	8 08	8 19	8 31	8 45	9 04	9 56	10 25	10 54	11 23	11 52	12 21
5 49	Sept. 8	7 09	7 14	7 19	7 25	7 30	7 37	7 45	7 54	8 08	8 14	8 47	9 48	10 17	10 46	11 15	11 44
3 55	Sept. 13	6 48	6 51	6 54	6 58	7 02	7 05	7 13	7 18	7 25	7 31	7 52	8 25	8 54	9 23	9 52	10 21
2 00	Sept. 18	6 25	6 27	6 29	6 32	6 32	6 37	6 42	6 44	6 49	6 51	7 02	7 20	7 47	8 14	8 41	9 08
0 03N	Sept. 23	6 03	6 04	6 05	6 06	6 07	6 08	6 11	6 11	6 13	6 13	6 15	6 21	6 30	6 50	7 51	Sets
1 54S	Sept. 28	5 41	5 41	5 41	5 41	5 40	5 39	5 40	5 38	5 37	5 34	5 29	5 24	5 14	4 55	3 56	Sept. 26
3 51S	Oct. 3	5 19	5 18	5 16	5 15	5 12	5 10	5 09	5 05	5 06	4 56	4 42	4 24	3 54	2 42	1 43	Oct. 1
5 46	Oct. 8	4 58	4 55	4 51	4 47	4 45	4 41	4 38	4 31	4 25	4 18	3 54	3 20	2 14	1 15	0 16	Oct. 1
7 40	Oct. 13	4 36	4 31	4 26	4 23	4 17	4 11	4 05	3 56	3 46	3 34	2 59	1 58	0 50	0 01	0 01	Oct. 1
9 31	Oct. 18	4 14	4 58	4 02	3 56	3 49	3 40	3 31	3 18	3 04	2 45	1 50	0 50	0 01	0 01	0 01	Oct. 1
11 18	Oct. 23	3 51	3 44	3 37	3 29	3 18	3 07	2 54	2 36	2 13	1 47	0 50	0 01	0 01	0 01	0 01	Oct. 1
13 02S	Oct. 28	3 29	3 20	3 10	3 00	2 47	2 41	2 12	1 47	1 04	0 38	0 01	0 01	0 01	0 01	0 01	Oct. 1
14 40S	Nov. 2	3 06	2 56	2 45	2 30	2 13	1 50	1 18	0 30	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
16 12	Nov. 7	2 44	2 30	2 15	1 56	1 34	0 56	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
17 38	Nov. 12	2 20	2 03	1 42	1 15	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
18 55	Nov. 17	1 54	1 33	1 03	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
20 05	Nov. 22	1 30	0 56	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
21 05S	Nov. 27	0 58	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	0 01	Oct. 1
21 55S	Dec. 2	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—	Sun does not rise between—
22 35	Dec. 7	Dec. 3	Nov. 27	Nov. 22	Nov. 18	Nov. 14	Nov. 10	Nov. 6	Nov. 4	Nov. 1	Oct. 28	Oct. 23					

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	South Latitude.															
		0°	2°	4°	6°	8°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
23 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37	6	5 59	5 55	5 52	5 49	5 45	5 42	5 40	5 38	5 36	5 34	5 33	5 31	5 29	5 27	5 25	5 23
21 58	11	6 02	5 59	5 56	5 52	5 49	5 45	5 43	5 42	5 40	5 38	5 37	5 35	5 33	5 31	5 29	5 27
21 08	16	6 04	6 01	5 58	5 55	5 51	5 47	5 45	5 44	5 42	5 40	5 39	5 37	5 35	5 33	5 31	5 29
20 07	21	6 06	6 03	6 00	5 57	5 54	5 50	5 48	5 47	5 45	5 43	5 42	5 40	5 38	5 36	5 35	5 33
18 58	26	6 07	6 04	6 01	5 58	5 55	5 51	5 49	5 47	5 45	5 44	5 43	5 41	5 39	5 38	5 36	5 34
17 39 S	31	6 09	6 06	6 04	6 01	5 58	5 55	5 54	5 52	5 51	5 50	5 48	5 46	5 45	5 43	5 42	5 40
		6 10	6 07	6 05	6 02	6 00	5 57	5 56	5 55	5 53	5 52	5 51	5 49	5 48	5 46	5 45	5 44
16 13 S	Feb. 5	6 10	6 08	6 06	6 04	6 01	5 58	5 57	5 56	5 54	5 53	5 52	5 51	5 50	5 48	5 47	5 46
14 40	10	6 11	6 09	6 07	6 05	6 02	6 00	6 00	5 58	5 57	5 56	5 55	5 54	5 53	5 52	5 50	5 49
13 01	15	6 11	6 09	6 07	6 06	6 03	6 01	6 01	6 00	5 59	5 58	5 57	5 56	5 55	5 54	5 53	5 52
11 16	20	6 10	6 09	6 07	6 06	6 04	6 02	6 02	6 01	6 00	5 59	5 58	5 57	5 56	5 55	5 54	5 53
9 28 S	25	6 10	6 09	6 07	6 06	6 04	6 03	6 02	6 02	6 01	6 00	6 00	5 59	5 59	5 58	5 57	5 56
7 30 S	Mar. 2	6 09	6 08	6 07	6 06	6 04	6 03	6 02	6 02	6 01	6 00	6 00	5 59	5 59	5 58	5 57	5 56
5 34	7	6 07	6 07	6 06	6 06	6 04	6 03	6 03	6 03	6 02	6 02	6 02	6 01	6 01	6 00	6 00	6 00
3 37	12	6 06	6 06	6 05	6 05	6 04	6 04	6 04	6 04	6 03	6 03	6 03	6 02	6 02	6 02	6 02	6 02
1 39 S	17	6 05	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 03	6 03	6 03	6 03	6 03	6 03
0 20 N	22	6 03	6 03	6 03	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04	6 04
2 18 N	27	6 02	6 02	6 02	6 03	6 03	6 03	6 04	6 04	6 04	6 04	6 05	6 05	6 05	6 05	6 05	6 05
4 15 N	Apr. 1	6 00	6 01	6 01	6 02	6 03	6 03	6 03	6 03	6 03	6 04	6 04	6 04	6 05	6 05	6 05	6 05
6 09	6	5 59	6 00	6 00	6 02	6 02	6 03	6 04	6 04	6 05	6 05	6 06	6 06	6 07	6 07	6 07	6 07
8 02	11	5 57	5 59	6 00	6 01	6 02	6 03	6 04	6 04	6 05	6 06	6 06	6 07	6 08	6 08	6 09	6 09
9 51	16	5 56	5 58	5 59	6 00	6 02	6 03	6 04	6 05	6 06	6 06	6 07	6 08	6 09	6 09	6 10	6 11
11 35	21	5 55	5 57	5 58	6 00	6 02	6 03	6 04	6 05	6 06	6 07	6 08	6 09	6 10	6 11	6 12	6 12
13 15 N	26	5 54	5 56	5 58	6 00	6 02	6 03	6 04	6 05	6 06	6 07	6 08	6 09	6 10	6 11	6 12	6 13
14 50 N	May 1	5 53	5 55	5 58	6 00	6 02	6 04	6 05	6 06	6 08	6 09	6 10	6 11	6 12	6 13	6 14	6 15
16 19	6	5 53	5 55	5 58	6 00	6 02	6 05	6 06	6 07	6 09	6 10	6 11	6 12	6 14	6 15	6 16	6 17
17 42	11	5 52	5 55	5 58	6 00	6 03	6 05	6 07	6 08	6 10	6 11	6 12	6 14	6 15	6 16	6 18	6 19
18 55	16	5 52	5 55	5 58	6 01	6 03	6 06	6 08	6 09	6 11	6 12	6 14	6 15	6 17	6 18	6 20	6 21
19 58	21	5 52	5 56	5 58	6 01	6 04	6 07	6 09	6 10	6 12	6 14	6 15	6 17	6 18	6 20	6 22	6 23
21 00	26	5 53	5 56	5 59	6 02	6 05	6 08	6 10	6 12	6 13	6 15	6 17	6 18	6 20	6 21	6 23	6 24
21 48 N	31	5 53	5 57	6 00	6 03	6 06	6 10	6 12	6 13	6 15	6 16	6 18	6 20	6 22	6 23	6 25	6 26
22 28 N	June 5	5 54	5 58	6 01	6 05	6 08	6 11	6 13	6 14	6 16	6 18	6 20	6 22	6 23	6 25	6 27	6 28
22 57	10	5 55	5 59	6 02	6 06	6 09	6 12	6 14	6 16	6 18	6 20	6 21	6 23	6 25	6 27	6 29	6 30
23 17	15	5 56	6 00	6 03	6 07	6 10	6 13	6 14	6 16	6 18	6 20	6 22	6 23	6 25	6 27	6 29	6 31
23 26	20	5 57	6 01	6 04	6 08	6 11	6 15	6 17	6 18	6 20	6 22	6 24	6 26	6 28	6 30	6 32	6 33
23 25	25	5 58	6 02	6 06	6 09	6 12	6 16	6 18	6 19	6 21	6 23	6 25	6 27	6 29	6 31	6 32	6 34
23 14 N	30	5 59	6 03	6 06	6 10	6 13	6 16	6 17	6 19	6 21	6 23	6 25	6 27	6 29	6 31	6 32	6 34
22 52 N	July 5	6 00	6 04	6 07	6 11	6 14	6 17	6 18	6 20	6 21	6 23	6 25	6 27	6 29	6 31	6 32	6 34
22 21	10	6 01	6 04	6 08	6 11	6 14	6 18	6 19	6 21	6 23	6 24	6 26	6 28	6 30	6 32	6 33	6 35
21 40	15	6 02	6 05	6 08	6 11	6 14	6 18	6 19	6 21	6 23	6 24	6 26	6 28	6 29	6 31	6 33	6 34
20 50	20	6 02	6 05	6 08	6 11	6 14	6 17	6 19	6 21	6 22	6 24	6 25	6 27	6 28	6 30	6 32	6 33
19 50	25	6 02	6 06	6 08	6 11	6 14	6 17	6 18	6 20	6 21	6 23	6 24	6 26	6 27	6 29	6 30	6 32
18 43 N	30	6 02	6 06	6 08	6 11	6 13	6 16	6 17	6 19	6 20	6 21	6 23	6 24	6 26	6 27	6 28	6 30
17 28 N	Aug. 4	6 02	6 05	6 07	6 10	6 12	6 15	6 17	6 18	6 19	6 21	6 22	6 23	6 25	6 26	6 27	6 29
16 06	9	6 02	6 04	6 06	6 08	6 11	6 13	6 14	6 15	6 16	6 18	6 19	6 20	6 21	6 22	6 24	6 25
14 37	14	6 01	6 03	6 05	6 07	6 09	6 11	6 12	6 13	6 14	6 15	6 16	6 17	6 18	6 20	6 21	6 22
13 03	19	6 00	6 02	6 04	6 06	6 07	6 09	6 10	6 10	6 12	6 12	6 13	6 14	6 15	6 16	6 17	6 18
11 23	24	5 59	6 01	6 03	6 04	6 06	6 07	6 08	6 09	6 10	6 11	6 11	6 12	6 13	6 14	6 15	6 16
9 39 N	29	5 57	5 58	6 00	6 01	6 02	6 04	6 04	6 05	6 06	6 06	6 07	6 08	6 08	6 09	6 10	6 10
7 51 N	Sept. 3	5 56	5 57	5 58	5 59	6 00	6 01	6 01	6 02	6 02	6 03	6 03	6 04	6 04	6 05	6 06	6 06
6 00	8	5 54	5 55	5 56	5 56	5 57	5 58	5 58	5 59	5 59	6 00	6 00	6 00	6 00	6 01	6 02	6 02
4 07	13	5 52	5 53	5 53	5 54	5 54	5 55	5 55	5 55	5 55	5 56	5 56	5 56	5 56	5 57	5 57	5 57
2 11	18	5 51	5 51	5 51	5 51	5 51	5 52	5 52	5 52	5 52	5 52	5 52	5 52	5 52	5 52	5 53	5 53
0 15 N	23	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49
1 42 S	28	5 47	5 47	5 46	5 46	5 46	5 46	5 46	5 46	5 46	5 46	5 46	5 46	5 45	5 45	5 45	5 45
3 39 S	Oct. 3	5 45	5 45	5 44	5 44	5 43	5 43	5 43	5 43	5 42	5 42	5 42	5 41	5 41	5 41	5 40	5 40
5 35	8	5 44	5 43	5 42	5 41	5 40	5 40	5 39	5 39	5 38	5 38	5 37	5 37	5 36	5 36	5 35	5 35
7 28	13	5 43	5 41	5 40	5 39	5 38	5 37	5 36	5 36	5 35	5 35	5 34	5 33	5 33	5 32	5 31	5 31
9 20	18	5 42	5 40	5 38	5 37	5 36	5 35	5 35	5 34	5 33	5 33	5 32	5 31	5 30	5 29	5 29	5 28
11 08	23	5 41	5 39	5 37	5 36	5 34	5 33	5 33	5 32	5 31	5 30	5 29	5 28	5 27	5 26	5 25	5 24
12 51 S	28	5 40	5 38	5 36	5 34	5 32	5 31	5 31	5 30	5 29	5 27	5 27	5 25	5 24	5 23	5 22	5 21
14 30 S	Nov. 2	5 40	5 38	5 35	5 33	5 31	5 29	5 28	5 27	5 26	5 24	5 24	5 22	5 21	5 20	5 19	5 18
16 03	7	5 40	5 38	5 35	5 33	5 30	5 28	5 27	5 26	5 25	5 23	5 22	5 21	5 19	5 18	5 16	5 15
17 29	12	5 40	5 38	5 35	5 33	5 30	5 27	5 26	5 25	5 23	5 22	5 21	5 19	5 18	5 16	5 15	5 14
18 48	17	5 41	5 38	5 35	5 33	5 30	5 27	5 26	5 24	5 23	5 21	5 20	5 18	5 17	5 15	5 14	5 13
19 58	22	5 42	5 39	5 36	5 34	5 30	5 27	5 26	5 24	5 23	5 21	5 20	5 18	5 16	5 15	5 13	5 11
20 59 S	27	5 44	5 40	5 37	5 35	5 31	5 28	5 27	5 25	5 23	5 22	5 20	5 18	5 16	5 15	5 13	5 11
21 51 S	Dec. 2	5 45	5 42	5 39	5 36	5 32	5 29	5 28	5 26	5 24	5 22	5 21	5 19	5 17	5 15	5 13	5 11
22 32	7	5 47	5 43	5 40	5 37	5 33	5 30	5 28	5 26	5 25	5 23	5 21	5 19	5 17	5 15	5 13	5 11
23 12	12	5 50	5 46	5 43	5 40	5 36	5 32	5 30	5 28	5 26	5 24	5 22	5 21	5 19	5 17	5 15	5 13
23 20	17	5 52	5 49	5 45	5 42	5 38	5 34	5 32	5 30	5 2							

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

509

Declina- tion.	Approx. date.	South Latitude.															
		0°	2°	4°	6°	8°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	6 08	6 12	6 15	6 18	6 22	6 25	6 27	6 29	6 31	6 32	6 34	6 36	6 38	6 40	6 42	6 44
21 53	11	6 10	6 14	6 17	6 20	6 24	6 27	6 29	6 31	6 32	6 34	6 36	6 38	6 40	6 41	6 43	6 45
21 02	16	6 12	6 16	6 19	6 22	6 25	6 28	6 29	6 31	6 33	6 34	6 36	6 38	6 40	6 41	6 43	6 45
20 01	21	6 14	6 17	6 20	6 23	6 26	6 29	6 30	6 32	6 33	6 34	6 37	6 38	6 40	6 42	6 43	6 45
18 50	26	6 15	6 18	6 21	6 24	6 27	6 30	6 32	6 33	6 35	6 36	6 38	6 39	6 41	6 43	6 44	6 46
17 31 S	31	6 17	6 20	6 23	6 25	6 28	6 30	6 31	6 33	6 35	6 36	6 38	6 39	6 40	6 42	6 44	6 45
16 04 S	Feb. 5	6 18	6 20	6 23	6 25	6 27	6 30	6 31	6 32	6 33	6 34	6 36	6 37	6 38	6 39	6 40	6 42
14 30	10	6 18	6 20	6 22	6 24	6 26	6 29	6 31	6 32	6 33	6 34	6 35	6 36	6 37	6 38	6 39	6 40
12 51	15	6 18	6 20	6 22	6 23	6 25	6 27	6 28	6 29	6 30	6 31	6 32	6 33	6 34	6 35	6 36	6 36
11 06	20	6 18	6 19	6 21	6 22	6 24	6 26	6 27	6 28	6 29	6 29	6 30	6 31	6 32	6 33	6 34	6 34
9 16 S	25	6 17	6 18	6 19	6 21	6 22	6 24	6 25	6 25	6 26	6 27	6 27	6 28	6 29	6 29	6 30	6 31
7 18 S	Mar. 2	6 16	6 17	6 18	6 19	6 20	6 21	6 21	6 22	6 22	6 23	6 23	6 24	6 24	6 25	6 25	6 26
5 23	7	6 15	6 15	6 16	6 17	6 18	6 19	6 20	6 20	6 20	6 21	6 21	6 22	6 22	6 22	6 23	6 23
3 25	12	6 14	6 14	6 14	6 15	6 15	6 16	6 16	6 16	6 16	6 16	6 17	6 17	6 17	6 17	6 18	6 18
1 27 S	17	6 12	6 12	6 12	6 12	6 12	6 13	6 13	6 13	6 13	6 13	6 13	6 13	6 13	6 13	6 14	6 14
0 32 N	22	6 11	6 10	6 10	6 10	6 10	6 11	6 11	6 11	6 11	6 11	6 11	6 10	6 11	6 10	6 10	6 10
2 30 N	27	6 09	6 08	6 08	6 08	6 07	6 08	6 08	6 07	6 07	6 07	6 07	6 07	6 07	6 06	6 06	6 06
4 26 N	Apr. 1	6 08	6 07	6 06	6 05	6 05	6 05	6 05	6 04	6 04	6 04	6 03	6 03	6 03	6 02	6 02	6 01
6 21	6	6 06	6 05	6 04	6 03	6 02	6 02	6 02	6 01	6 01	6 00	6 00	5 59	5 59	5 58	5 57	5 57
8 13	11	6 05	6 03	6 02	6 01	6 00	5 59	5 59	5 58	5 58	5 57	5 57	5 55	5 55	5 55	5 54	5 53
10 01	16	6 04	6 02	6 00	5 59	5 57	5 57	5 56	5 55	5 55	5 54	5 53	5 52	5 52	5 51	5 50	5 49
11 46	21	6 03	6 00	5 59	5 57	5 55	5 54	5 53	5 52	5 51	5 50	5 49	5 48	5 47	5 46	5 45	5 44
13 25 N	26	6 02	5 59	5 57	5 56	5 54	5 52	5 50	5 50	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41
14 59 N	May 1	6 01	5 58	5 56	5 54	5 52	5 50	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 40	5 39	5 38
16 27	6	6 00	5 57	5 55	5 53	5 50	5 49	5 48	5 47	5 45	5 44	5 43	5 41	5 40	5 39	5 38	5 36
17 48	11	6 00	5 57	5 55	5 52	5 50	5 47	5 45	5 44	5 43	5 42	5 40	5 39	5 37	5 36	5 34	5 33
19 02	16	6 00	5 57	5 54	5 52	5 49	5 46	5 44	5 43	5 42	5 41	5 39	5 37	5 36	5 34	5 32	5 31
20 04	21	6 00	5 57	5 54	5 51	5 48	5 46	5 45	5 43	5 42	5 41	5 39	5 37	5 36	5 33	5 32	5 31
21 05	26	6 01	5 58	5 54	5 51	5 48	5 45	5 44	5 42	5 40	5 39	5 37	5 35	5 34	5 32	5 30	5 29
21 53 N	31	6 01	5 58	5 55	5 52	5 48	5 45	5 43	5 42	5 40	5 38	5 37	5 35	5 33	5 31	5 30	5 28
22 31 N	June 5	6 02	5 59	5 56	5 52	5 49	5 45	5 44	5 42	5 40	5 38	5 37	5 35	5 33	5 31	5 29	5 28
23 00	10	6 03	6 00	5 56	5 53	5 50	5 46	5 44	5 42	5 41	5 39	5 37	5 35	5 33	5 32	5 30	5 28
23 18	15	6 04	6 01	5 57	5 54	5 50	5 47	5 45	5 43	5 42	5 40	5 38	5 36	5 34	5 32	5 30	5 28
23 26	20	6 05	6 02	5 58	5 55	5 51	5 48	5 46	5 44	5 43	5 41	5 39	5 37	5 35	5 33	5 31	5 29
23 24	25	6 06	6 03	5 59	5 56	5 53	5 49	5 47	5 46	5 44	5 42	5 40	5 38	5 36	5 34	5 32	5 30
23 12 N	30	6 07	6 04	6 01	5 57	5 54	5 50	5 48	5 47	5 45	5 43	5 41	5 39	5 38	5 36	5 34	5 32
22 50 N	July 5	6 08	6 05	6 02	5 58	5 55	5 51	5 49	5 47	5 45	5 43	5 42	5 40	5 38	5 36	5 34	5 33
22 17	10	6 09	6 06	6 03	5 59	5 56	5 53	5 51	5 49	5 48	5 46	5 44	5 42	5 41	5 39	5 37	5 35
21 35	15	6 10	6 06	6 04	6 00	5 57	5 54	5 52	5 51	5 49	5 47	5 46	5 44	5 42	5 41	5 39	5 37
20 44	20	6 10	6 07	6 04	6 01	5 58	5 55	5 53	5 52	5 50	5 49	5 47	5 46	5 44	5 42	5 41	5 39
19 44	25	6 10	6 07	6 04	6 02	5 59	5 56	5 54	5 53	5 52	5 50	5 48	5 47	5 45	5 44	5 42	5 41
18 36 N	30	6 10	6 07	6 05	6 02	5 59	5 57	5 55	5 54	5 53	5 51	5 50	5 48	5 47	5 46	5 44	5 43
17 20 N	Aug. 4	6 10	6 07	6 05	6 02	6 00	5 57	5 56	5 55	5 54	5 52	5 51	5 50	5 48	5 47	5 46	5 44
15 57	9	6 09	6 07	6 04	6 02	6 00	5 58	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 48	5 47	5 46
14 28	14	6 08	6 06	6 04	6 02	6 00	5 58	5 57	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 48	5 47
12 53	19	6 07	6 05	6 03	6 02	6 00	5 58	5 57	5 56	5 55	5 54	5 54	5 53	5 52	5 51	5 50	5 49
11 13	24	6 06	6 04	6 03	6 01	6 00	5 58	5 57	5 56	5 56	5 55	5 54	5 54	5 52	5 52	5 51	5 50
9 29 N	29	6 05	6 03	6 02	6 00	5 59	5 58	5 57	5 56	5 56	5 55	5 55	5 54	5 53	5 53	5 52	5 51
7 40 N	Sept. 3	6 03	6 02	6 01	6 00	5 59	5 58	5 57	5 57	5 56	5 56	5 55	5 55	5 54	5 54	5 53	5 52
5 49	8	6 02	6 00	6 00	5 59	5 58	5 57	5 57	5 56	5 56	5 56	5 55	5 55	5 55	5 54	5 54	5 53
3 55	13	6 00	5 59	5 58	5 58	5 57	5 57	5 57	5 56	5 56	5 56	5 55	5 55	5 55	5 55	5 54	5 54
2 00	18	5 58	5 57	5 57	5 57	5 57	5 57	5 57	5 56	5 56	5 56	5 55	5 55	5 55	5 55	5 55	5 54
0 03 N	23	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 56	5 57
1 54 S	28	5 55	5 54	5 55	5 55	5 55	5 56	5 56	5 56	5 56	5 56	5 57	5 57	5 57	5 57	5 58	5 58
3 51 S	Oct. 3	5 53	5 53	5 54	5 54	5 55	5 56	5 56	5 56	5 57	5 57	5 57	5 58	5 58	5 58	5 59	5 59
5 46	8	5 52	5 52	5 53	5 54	5 55	5 56	5 56	5 56	5 57	5 57	5 58	5 58	5 59	5 59	6 00	6 00
7 40	13	5 50	5 51	5 52	5 53	5 54	5 56	5 56	5 57	5 57	5 58	5 59	5 59	6 00	6 00	6 01	6 02
9 31	18	5 49	5 50	5 51	5 53	5 54	5 56	5 57	5 57	5 58	5 59	6 00	6 00	6 01	6 02	6 03	6 04
11 18	23	5 48	5 50	5 51	5 53	5 55	5 56	5 57	5 58	5 59	6 00	6 01	6 02	6 03	6 04	6 05	6 06
13 02 S	28	5 48	5 49	5 51	5 53	5 55	5 57	5 58	5 59	6 00	6 01	6 02	6 04	6 04	6 06	6 07	6 08
14 40 S	Nov. 2	5 48	5 49	5 52	5 54	5 56	5 58	6 00	6 01	6 02	6 03	6 04	6 05	6 06	6 08	6 09	6 10
16 12	7	5 48	5 50	5 52	5 55	5 57	6 00	6 01	6 02	6 04	6 05	6 06	6 07	6 09	6 10	6 11	6 13
17 38	12	5 48	5 51	5 53	5 56	5 59	6 01	6 03	6 04	6 06	6 07	6 08	6 10	6 11	6 13	6 14	6 16
18 55	17	5 49	5 52	5 55	5 58	6 00	6 03	6 05	6 06	6 08	6 09	6 11	6 12	6 14	6 15	6 17	6 19
20 05	22	5 50	5 53	5 56	6 00	6 02	6 05	6 06	6 08	6 09	6 11	6 12	6 14	6 16	6 17	6 19	6 21
21 05 S	27	5 52	5 55	5 58	6 02	6 05	6 07	6 08	6 10	6 12	6 13	6 15	6 17	6 19	6 20	6 22	6 24
21 55 S	Dec. 2	5 53	5 57	6 00	6 04	6 07	6 10	6 12	6 14	6 16	6 17	6 19	6 21	6 23	6 24	6 26	6 28
22 35	7	5 55	5 59	6 02	6 06	6 10	6 12	6 13	6 15	6 17	6 19	6 21	6 23	6 25	6 27	6 28	6 30
23 04	12	5 58	6 02	6 05	6 09	6 12	6 15	6 14	6 18	6 20	6 22	6 24	6 26	6 27	6 29	6 31	6 33
23 21	17	6 00	6 04	6 08	6 11	6 15	6 18	6 20	6 22	6 24	6 26	6 27	6 29	6 31	6 33	6 35	6 37
23 27	22	6 03	6 07	6 10	6 14	6 17	6 20	6 22	6 23								

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	South Latitude.															
		21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°
0		<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>
23 05 S	Jan. 1	5 21	5 19	5 17	5 15	5 13	5 11	5 08	5 06	5 04	5 01	4 59	4 57	4 54	4 51	4 49	4 47
22 37	6	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 10	5 07	5 05	5 03	5 01	4 58	4 55	4 53	4 51
21 58	11	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 11	5 09	5 07	5 05	5 02	5 00	4 57	4 55
21 08	16	5 31	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 14	5 12	5 10	5 08	5 05	5 03	5 00	4 58
20 07	21	5 35	5 33	5 31	5 29	5 27	5 25	5 23	5 21	5 18	5 16	5 14	5 12	5 09	5 07	5 04	5 02
18 58	26	5 38	5 36	5 35	5 33	5 31	5 29	5 27	5 25	5 22	5 20	5 18	5 16	5 13	5 11	5 08	5 06
17 39 S	31	5 41	5 40	5 38	5 37	5 35	5 33	5 32	5 30	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 15
16 18 S	Feb. 5	5 44	5 43	5 41	5 40	5 39	5 37	5 36	5 34	5 33	5 31	5 30	5 28	5 26	5 24	5 22	5 20
14 40	10	5 47	5 46	5 45	5 43	5 42	5 41	5 39	5 38	5 37	5 35	5 34	5 33	5 31	5 29	5 27	5 25
13 01	15	5 50	5 49	5 48	5 46	5 45	5 44	5 43	5 42	5 41	5 39	5 38	5 37	5 35	5 34	5 33	5 31
11 16	20	5 52	5 51	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 37	5 35
9 28 S	25	5 54	5 54	5 53	5 52	5 51	5 50	5 50	5 49	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41
7 30 S	Mar. 2	5 56	5 56	5 55	5 55	5 54	5 53	5 53	5 52	5 51	5 51	5 50	5 49	5 48	5 48	5 47	5 46
5 34	7	5 58	5 58	5 57	5 57	5 56	5 56	5 55	5 55	5 54	5 54	5 53	5 53	5 52	5 52	5 51	5 50
3 37	12	6 00	6 00	5 59	5 59	5 59	5 59	5 58	5 58	5 58	5 57	5 57	5 57	5 56	5 56	5 55	5 55
1 39 S	17	6 02	6 02	6 01	6 01	6 01	6 01	6 01	6 01	6 01	6 00	6 00	6 00	6 00	6 00	5 59	5 59
0 20 N	22	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03
2 18 N	27	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 06	6 07	6 07	6 07	6 07	6 07
4 15 N	Apr. 1	6 06	6 07	6 07	6 07	6 08	6 08	6 08	6 09	6 09	6 09	6 10	6 10	6 11	6 11	6 12	6 12
6 09	6	6 08	6 08	6 09	6 09	6 10	6 10	6 11	6 11	6 12	6 12	6 13	6 13	6 14	6 15	6 15	6 16
8 02	11	6 09	6 10	6 10	6 11	6 12	6 13	6 13	6 14	6 15	6 15	6 16	6 17	6 18	6 19	6 19	6 20
9 51	16	6 11	6 12	6 12	6 13	6 14	6 15	6 16	6 17	6 17	6 18	6 19	6 20	6 21	6 22	6 23	6 24
11 35	21	6 12	6 13	6 14	6 15	6 16	6 17	6 18	6 19	6 20	6 21	6 22	6 24	6 25	6 26	6 27	6 28
13 15 N	26	6 14	6 15	6 16	6 17	6 19	6 20	6 21	6 22	6 23	6 25	6 26	6 27	6 28	6 30	6 31	6 32
14 50 N	May 1	6 17	6 18	6 19	6 21	6 22	6 23	6 25	6 26	6 27	6 28	6 29	6 31	6 32	6 34	6 35	6 37
16 19	6	6 19	6 20	6 22	6 23	6 24	6 26	6 27	6 29	6 30	6 31	6 32	6 34	6 35	6 37	6 39	6 41
17 42	11	6 21	6 22	6 24	6 25	6 27	6 28	6 30	6 32	6 33	6 34	6 36	6 37	6 39	6 41	6 43	6 45
18 55	16	6 23	6 24	6 26	6 28	6 29	6 31	6 33	6 34	6 36	6 37	6 39	6 41	6 43	6 45	6 47	6 49
19 58	21	6 25	6 26	6 28	6 30	6 32	6 34	6 35	6 37	6 39	6 40	6 42	6 44	6 46	6 48	6 50	6 52
21 00	26	6 27	6 29	6 30	6 32	6 34	6 36	6 38	6 40	6 42	6 43	6 44	6 47	6 49	6 52	6 54	6 56
21 48 N	31	6 29	6 31	6 32	6 34	6 36	6 38	6 40	6 42	6 45	6 46	6 48	6 50	6 52	6 55	6 57	6 59
22 28 N	June 5	6 31	6 33	6 34	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 52	6 54	6 56	6 59	7 01	7 03
22 57	10	6 33	6 35	6 36	6 38	6 41	6 43	6 45	6 47	6 49	6 52	6 54	6 56	6 59	7 01	7 04	7 06
23 17	15	6 33	6 36	6 37	6 39	6 41	6 44	6 46	6 48	6 50	6 52	6 55	6 57	6 59	7 02	7 05	7 07
23 26	20	6 35	6 38	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 55	6 57	6 59	7 02	7 04	7 07	7 10
23 25	25	6 36	6 39	6 40	6 42	6 45	6 47	6 49	6 51	6 53	6 56	6 58	7 00	7 03	7 06	7 08	7 11
23 14 N	30	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 54	6 56	6 58	7 01	7 03	7 06	7 08	7 11
22 52 N	July 5	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 54	6 56	6 58	7 00	7 03	7 06	7 08	7 10
22 21	10	6 37	6 39	6 41	6 43	6 45	6 47	6 49	6 51	6 53	6 55	6 57	6 59	7 02	7 04	7 07	7 09
21 40	15	6 36	6 38	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 00	7 03	7 05	7 07
20 50	20	6 35	6 37	6 39	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 00	7 02	7 05
19 50	25	6 34	6 35	6 37	6 38	6 40	6 42	6 44	6 46	6 48	6 49	6 51	6 53	6 55	6 57	6 59	7 02
18 43 N	30	6 32	6 33	6 35	6 36	6 38	6 39	6 41	6 43	6 44	6 46	6 48	6 50	6 52	6 54	6 56	6 58
17 28 N	Aug. 4	6 31	6 32	6 33	6 34	6 36	6 37	6 39	6 40	6 42	6 44	6 45	6 47	6 49	6 50	6 52	6 54
16 06	9	6 26	6 28	6 29	6 30	6 32	6 33	6 34	6 35	6 37	6 40	6 41	6 43	6 44	6 46	6 47	6 49
14 37	14	6 23	6 24	6 25	6 26	6 28	6 29	6 30	6 31	6 33	6 35	6 36	6 38	6 39	6 41	6 42	6 43
13 03	19	6 19	6 20	6 21	6 22	6 24	6 25	6 26	6 27	6 28	6 30	6 31	6 32	6 34	6 35	6 36	6 37
11 23	24	6 16	6 17	6 18	6 19	6 20	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31
9 39 N	29	6 12	6 13	6 14	6 14	6 15	6 16	6 17	6 17	6 18	6 19	6 20	6 21	6 22	6 23	6 24	6 25
7 51 N	Sept. 3	6 07	6 07	6 08	6 08	6 09	6 10	6 10	6 11	6 12	6 13	6 14	6 15	6 15	6 16	6 17	6 17
6 00	8	6 02	6 03	6 03	6 04	6 04	6 05	6 05	6 06	6 07	6 08	6 08	6 09	6 09	6 09	6 10	6 11
4 07	13	5 58	5 58	5 58	5 58	5 59	5 59	5 59	6 00	6 00	6 01	6 01	6 02	6 02	6 02	6 03	6 03
2 11	18	5 53	5 53	5 53	5 54	5 54	5 55	5 55	5 55	5 56	5 56	5 57	5 57	5 57	5 58	5 58	5 59
0 15 N	23	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 49	5 48	5 48	5 49
1 42 S	28	5 44	5 44	5 44	5 44	5 44	5 44	5 43	5 43	5 43	5 43	5 42	5 42	5 42	5 41	5 41	5 41
3 39 S	Oct. 3	5 40	5 39	5 39	5 39	5 38	5 38	5 38	5 37	5 37	5 36	5 36	5 35	5 35	5 35	5 34	5 34
5 35	8	5 35	5 35	5 34	5 34	5 33	5 33	5 32	5 31	5 31	5 30	5 30	5 29	5 28	5 28	5 27	5 27
7 28	13	5 31	5 30	5 30	5 29	5 28	5 28	5 27	5 26	5 25	5 24	5 24	5 23	5 22	5 21	5 20	5 20
9 20	18	5 27	5 26	5 25	5 25	5 24	5 23	5 22	5 21	5 20	5 20	5 19	5 17	5 16	5 15	5 14	5 14
11 08	23	5 23	5 23	5 22	5 21	5 19	5 18	5 17	5 16	5 15	5 14	5 13	5 12	5 11	5 09	5 08	5 07
12 51 S	28	5 20	5 19	5 18	5 17	5 16	5 14	5 13	5 12	5 11	5 09	5 08	5 07	5 05	5 04	5 02	5 01
14 30 S	Nov. 2	5 16	5 15	5 14	5 12	5 11	5 10	5 08	5 07	5 05	5 05	5 05	5 05	5 04	5 03	5 02	5 01
16 03	7	5 14	5 12	5 11	5 10	5 08	5 06	5 05	5 04	5 02	5 01	5 00	4 58	4 56	4 54	4 53	4 51
17 29	12	5 12	5 10	5 09	5 07	5 06	5 04	5 02	5 01	4 59	4 58	4 56	4 54	4 52	4 50	4 48	4 47
18 48	17	5 10	5 09	5 07	5 05	5 04	5 02	5 00	4 58	4 56	4 54	4 53	4 51	4 49	4 47	4 45	4 44
19 58	22	5 09	5 08	5 06	5 04	5 02	5 00	4 58	4 57	4 54	4 53	4 51	4 49	4 47	4 45	4 43	4 42
20 59 S	27	5 09	5 08	5 06	5 04	5 02	5 00	4 58	4 56	4 54	4 52	4 50	4 48	4 46	4 43	4 41	4 39
21 51 S	Dec. 2	5 09	5 08	5 06	5 04	5 02	5 00	4 58	4 56	4 54	4 51	4 49	4 46	4 44	4 41	4 39	4 36
22 32	7	5 10	5 08	5 06	5 04	5 02	5 00	4 58	4 56	4 54	4 51	4 49	4 46	4 44	4 41	4 39	4 36
23 02	12	5 12	5 10	5 08	5 06	5 04	5 01	4 59	4 57	4 54	4 52	4 50	4 47	4 44	4 41	4 39	4 37
23 20	17	5 13															

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

Declina- tion.	Approx. date.	South Latitude.															
		21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°
23 03 S	Jan. 1	6 46	6 48	6 50	6 52	6 54	6 56	6 58	7 01	7 03	7 06	7 08	7 10	7 13	7 16	7 18	7 21
22 34	6	6 47	6 49	6 51	6 53	6 55	6 57	7 00	7 02	7 04	7 06	7 09	7 11	7 14	7 16	7 19	7 21
21 53	11	6 48	6 50	6 52	6 54	6 56	6 58	7 00	7 02	7 04	7 06	7 09	7 11	7 14	7 16	7 18	7 21
21 02	16	6 48	6 50	6 52	6 53	6 55	6 57	6 59	7 01	7 03	7 06	7 08	7 10	7 12	7 15	7 17	7 19
20 01	21	6 48	6 49	6 51	6 53	6 55	6 56	6 58	7 00	7 02	7 04	7 06	7 08	7 10	7 13	7 15	7 17
18 50	26	6 47	6 48	6 50	6 51	6 53	6 55	6 57	6 58	7 00	7 02	7 04	7 06	7 08	7 10	7 12	7 14
17 31 S	31	6 45	6 47	6 48	6 49	6 51	6 53	6 54	6 56	6 58	6 59	7 01	7 03	7 05	7 07	7 09	7 10
16 04 S	Feb. 5	6 43	6 44	6 46	6 47	6 49	6 50	6 52	6 53	6 55	6 56	6 58	6 59	7 01	7 03	7 04	7 06
14 30	10	6 42	6 43	6 44	6 45	6 47	6 48	6 49	6 51	6 52	6 53	6 55	6 56	6 58	6 59	7 01	7 02
12 51	15	6 39	6 40	6 41	6 42	6 43	6 44	6 45	6 46	6 48	6 49	6 50	6 51	6 53	6 54	6 55	6 57
11 06	20	6 35	6 36	6 37	6 38	6 39	6 40	6 41	6 42	6 43	6 44	6 45	6 46	6 47	6 48	6 50	6 51
9 16 S	25	6 32	6 32	6 33	6 34	6 35	6 35	6 36	6 37	6 38	6 39	6 40	6 41	6 42	6 43	6 43	6 44
7 18 S	Mar. 2	6 28	6 28	6 29	6 29	6 30	6 31	6 31	6 32	6 33	6 33	6 34	6 35	6 36	6 36	6 37	6 38
5 23	7	6 23	6 24	6 24	6 25	6 25	6 26	6 26	6 27	6 28	6 28	6 29	6 29	6 30	6 30	6 30	6 31
3 25	12	6 19	6 19	6 20	6 20	6 20	6 21	6 21	6 21	6 21	6 22	6 22	6 23	6 23	6 23	6 24	6 24
1 27 S	17	6 15	6 15	6 15	6 15	6 15	6 15	6 15	6 16	6 16	6 16	6 16	6 16	6 16	6 16	6 17	6 17
0 32 N	22	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 09
2 30 N	27	6 06	6 05	6 05	6 05	6 05	6 05	6 04	6 04	6 04	6 04	6 03	6 03	6 03	6 03	6 02	6 02
4 26 N	Apr. 1	6 01	6 01	6 00	6 00	6 00	5 59	5 59	5 59	5 58	5 58	5 57	5 57	5 56	5 56	5 55	5 55
6 21	6	5 57	5 56	5 56	5 55	5 55	5 54	5 54	5 53	5 52	5 52	5 51	5 51	5 50	5 49	5 49	5 48
8 13	11	5 52	5 52	5 51	5 51	5 50	5 49	5 48	5 47	5 47	5 46	5 45	5 45	5 44	5 43	5 42	5 41
10 01	16	5 48	5 48	5 47	5 46	5 45	5 44	5 43	5 42	5 41	5 41	5 40	5 39	5 38	5 37	5 36	5 35
11 46	21	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 29	5 28
13 25 N	26	5 41	5 40	5 39	5 38	5 36	5 35	5 34	5 33	5 32	5 30	5 29	5 28	5 27	5 25	5 24	5 22
14 59 N	May 1	5 38	5 36	5 35	5 34	5 33	5 31	5 30	5 29	5 27	5 26	5 24	5 23	5 20	5 20	5 18	5 17
16 27	6	5 35	5 33	5 32	5 31	5 29	5 28	5 26	5 25	5 23	5 22	5 20	5 19	5 16	5 15	5 13	5 12
17 48	11	5 33	5 31	5 29	5 28	5 26	5 25	5 23	5 22	5 20	5 18	5 16	5 15	5 13	5 11	5 09	5 07
19 02	16	5 30	5 29	5 27	5 26	5 24	5 22	5 20	5 19	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 03
20 04	21	5 29	5 27	5 25	5 24	5 22	5 20	5 18	5 16	5 14	5 13	5 11	5 09	5 06	5 04	5 02	5 00
21 05	26	5 28	5 26	5 24	5 22	5 20	5 19	5 17	5 14	5 12	5 11	5 08	5 06	5 04	5 02	4 59	4 57
21 53 N	31	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 10	5 08	5 06	5 04	5 01	4 59	4 57	4 54
22 31 N	June 5	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 05	5 03	5 00	4 58	4 55	4 53
23 00	10	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 05	5 02	5 00	4 57	4 55	4 52
23 18	15	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 10	5 07	5 05	5 02	5 00	4 57	4 55	4 52
23 26	20	5 27	5 25	5 23	5 21	5 19	5 17	5 15	5 13	5 10	5 08	5 06	5 03	5 01	4 58	4 56	4 53
23 24	25	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 05	5 02	4 59	4 57	4 54
23 12 N	30	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 13	5 11	5 09	5 06	5 04	5 01	4 59	4 56
22 50 N	July 5	5 31	5 29	5 27	5 25	5 23	5 21	5 19	5 17	5 14	5 12	5 10	5 07	5 05	5 03	5 00	4 58
22 17	10	5 33	5 32	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 15	5 13	5 11	5 09	5 06	5 04	5 02
21 35	15	5 35	5 34	5 32	5 30	5 28	5 26	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 04
20 44	20	5 37	5 36	5 34	5 32	5 30	5 28	5 26	5 25	5 23	5 21	5 19	5 17	5 14	5 12	5 10	5 08
19 44	25	5 39	5 38	5 36	5 34	5 33	5 31	5 29	5 27	5 25	5 23	5 22	5 20	5 18	5 16	5 14	5 12
18 36 N	30	5 41	5 40	5 38	5 36	5 35	5 33	5 32	5 30	5 28	5 26	5 25	5 23	5 21	5 19	5 17	5 15
17 20 N	Aug. 4	5 43	5 41	5 40	5 39	5 37	5 36	5 34	5 33	5 31	5 29	5 28	5 26	5 24	5 23	5 21	5 19
15 57	9	5 44	5 43	5 42	5 41	5 39	5 38	5 37	5 35	5 34	5 32	5 31	5 29	5 28	5 26	5 24	5 23
14 28	14	5 46	5 45	5 44	5 43	5 42	5 40	5 39	5 38	5 37	5 35	5 34	5 33	5 31	5 30	5 28	5 27
12 53	19	5 48	5 47	5 46	5 45	5 44	5 42	5 41	5 40	5 39	5 38	5 37	5 36	5 35	5 33	5 32	5 31
11 13	24	5 49	5 48	5 47	5 46	5 44	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 37	5 36	5 35
9 29 N	29	5 50	5 50	5 49	5 48	5 48	5 47	5 46	5 45	5 44	5 44	5 43	5 42	5 41	5 40	5 39	5 38
7 40 N	Sept. 3	5 52	5 51	5 51	5 50	5 50	5 49	5 48	5 48	5 47	5 46	5 46	5 45	5 44	5 44	5 43	5 42
5 49	8	5 53	5 53	5 52	5 52	5 51	5 51	5 50	5 50	5 50	5 49	5 49	5 48	5 48	5 47	5 47	5 46
3 55	13	5 54	5 54	5 54	5 53	5 53	5 53	5 52	5 52	5 52	5 52	5 51	5 51	5 51	5 51	5 50	5 50
2 00	18	5 54	5 54	5 54	5 54	5 54	5 54	5 54	5 54	5 54	5 53	5 53	5 53	5 53	5 53	5 53	5 53
0 03 N	23	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 58	5 58
1 54 S	28	5 58	5 58	5 58	5 58	5 59	5 59	5 59	6 00	6 00	6 00	6 00	6 00	6 01	6 01	6 01	6 02
3 51 S	Oct. 3	5 59	6 00	6 00	6 00	6 01	6 01	6 02	6 02	6 02	6 03	6 03	6 04	6 04	6 05	6 05	6 06
5 46	8	6 01	6 01	6 02	6 02	6 03	6 04	6 04	6 05	6 05	6 06	6 07	6 07	6 08	6 09	6 09	6 10
7 40	13	6 02	6 03	6 04	6 05	6 05	6 06	6 07	6 08	6 08	6 09	6 10	6 11	6 12	6 12	6 13	6 14
9 31	18	6 04	6 05	6 06	6 07	6 08	6 09	6 10	6 11	6 12	6 13	6 14	6 14	6 16	6 17	6 18	6 19
11 18	23	6 07	6 08	6 08	6 09	6 10	6 12	6 13	6 14	6 15	6 16	6 17	6 18	6 20	6 21	6 22	6 24
13 02 S	28	6 09	6 10	6 11	6 12	6 13	6 15	6 16	6 17	6 18	6 20	6 21	6 22	6 24	6 25	6 27	6 28
14 40 S	Nov. 2	6 11	6 13	6 14	6 15	6 17	6 18	6 19	6 21	6 22	6 23	6 24	6 26	6 27	6 29	6 31	6 33
16 12	7	6 14	6 16	6 17	6 18	6 20	6 21	6 23	6 24	6 26	6 27	6 28	6 30	6 32	6 34	6 36	6 37
17 38	12	6 17	6 19	6 20	6 22	6 23	6 25	6 27	6 28	6 30	6 31	6 33	6 35	6 37	6 39	6 41	6 43
18 55	17	6 20	6 22	6 23	6 25	6 27	6 29	6 30	6 32	6 34	6 35	6 37	6 39	6 41	6 43	6 46	6 48
20 05	22	6 22	6 24	6 26	6 28	6 30	6 32	6 33	6 35	6 37	6 40	6 42	6 44	6 46	6 48	6 51	6 53
21 05 S	27	6 25	6 28	6 29	6 31	6 33	6 35	6 37	6 39	6 41	6 44	6 46	6 48	6 51	6 53	6 55	6 58
21 55 S	Dec. 2	6 30	6 32	6 34	6 36	6 38	6 38	6 42	6 44	6 47	6 49	6 51	6 54	6 56	6 58	7 00	7 03
22 35	7	6 32	6 34	6 36	6 38	6 41	6 43	6 45	6 47	6 49	6 52	6 54	6 56	6 59	7 02	7 04	7 07
23 04	12	6 35	6 37	6 39	6 41	6 44	6 46	6 48	6 50	6 53	6 55	6 58	7 00	7 03	7 05	7 08	7 11
23 21	17	6 39	6 41	6 43	6 45	6 48	6 50	6 52	6 54	6 57	6 59	7 02	7 04	7 07	7 10	7 12	7 15
23 27	22	6 42	6 44	6 46	6 48	6 50	6										

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	South Latitude.															
		37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°	52°
23 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37	6	4 43	4 40	4 37	4 34	4 31	4 27	4 24	4 20	4 16	4 12	4 08	4 03	3 59	3 54	3 49	3 44
21 58	11	4 46	4 43	4 40	4 38	4 34	4 31	4 28	4 23	4 20	4 16	4 12	4 08	4 04	3 59	3 54	3 49
20 08	16	4 52	4 49	4 46	4 43	4 40	4 37	4 34	4 30	4 27	4 23	4 18	4 14	4 10	4 05	4 00	3 55
18 58	21	4 56	4 53	4 51	4 48	4 45	4 42	4 39	4 36	4 32	4 29	4 25	4 21	4 17	4 13	4 08	4 04
17 39 S	26	5 01	4 59	4 56	4 54	4 51	4 48	4 45	4 42	4 39	4 36	4 32	4 29	4 25	4 21	4 17	4 12
	31	5 07	5 04	5 02	5 00	4 57	4 54	4 52	4 49	4 46	4 43	4 40	4 36	4 33	4 29	4 24	4 21
		5 12	5 10	5 08	5 06	5 04	5 01	4 59	4 56	4 53	4 51	4 48	4 45	4 42	4 38	4 33	4 29
16 13 S	Feb. 5	5 18	5 16	5 14	5 12	5 10	5 08	5 06	5 03	5 01	4 58	4 56	4 53	4 50	4 47	4 43	4 40
14 40	10	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 10	5 08	5 06	5 04	5 01	4 59	4 56	4 52	4 49
13 01	15	5 29	5 27	5 26	5 24	5 23	5 21	5 19	5 17	5 15	5 13	5 11	5 09	5 07	5 04	5 01	4 59
11 16	20	5 34	5 33	5 31	5 30	5 29	5 27	5 26	5 24	5 22	5 21	5 19	5 17	5 15	5 13	5 10	5 08
9 28 S	25	5 39	5 38	5 37	5 36	5 35	5 33	5 32	5 31	5 30	5 28	5 27	5 26	5 24	5 22	5 19	5 17
7 30 S	Mar. 2	5 45	5 44	5 43	5 42	5 41	5 40	5 39	5 38	5 36	5 35	5 34	5 33	5 32	5 30	5 29	5 28
5 34	7	5 50	5 49	5 49	5 48	5 46	5 46	5 45	5 44	5 43	5 42	5 41	5 41	5 40	5 39	5 38	5 37
3 37	12	5 55	5 54	5 54	5 53	5 52	5 52	5 51	5 50	5 50	5 49	5 49	5 48	5 48	5 47	5 46	5 45
1 39 S	17	5 58	5 58	5 58	5 58	5 57	5 57	5 57	5 57	5 56	5 56	5 56	5 55	5 55	5 55	5 54	5 54
0 20 N	22	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03	6 03
2 18 N	27	6 07	6 07	6 08	6 08	6 08	6 08	6 09	6 09	6 09	6 09	6 10	6 10	6 10	6 11	6 11	6 11
4 15 N	Apr. 1	6 12	6 12	6 12	6 13	6 13	6 14	6 14	6 15	6 16	6 16	6 17	6 17	6 18	6 19	6 19	6 20
6 09	6	6 16	6 16	6 17	6 18	6 18	6 19	6 20	6 21	6 22	6 22	6 23	6 24	6 25	6 26	6 27	6 28
8 02	11	6 20	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 30	6 31	6 32	6 33	6 34	6 35
9 51	16	6 24	6 25	6 27	6 28	6 29	6 30	6 31	6 33	6 34	6 35	6 37	6 38	6 40	6 42	6 43	6 45
11 35	21	6 29	6 30	6 31	6 33	6 34	6 36	6 37	6 39	6 40	6 42	6 44	6 45	6 47	6 49	6 51	6 53
13 15 N	26	6 33	6 35	6 36	6 38	6 39	6 41	6 43	6 44	6 46	6 48	6 50	6 52	6 54	6 57	6 59	7 02
14 50 N	May 1	6 38	6 40	6 42	6 43	6 45	6 47	6 49	6 51	6 53	6 56	6 58	7 00	7 03	7 04	7 07	7 10
16 19	6	6 43	6 45	6 46	6 48	6 50	6 53	6 55	6 57	6 59	7 02	7 04	7 07	7 10	7 12	7 15	7 18
17 42	11	6 47	6 49	6 51	6 53	6 55	6 58	7 00	7 03	7 05	7 08	7 11	7 14	7 17	7 19	7 22	7 25
18 55	16	6 51	6 53	6 55	6 58	7 00	7 03	7 05	7 08	7 11	7 14	7 17	7 20	7 23	7 26	7 29	7 33
19 58	21	6 55	6 57	7 00	7 02	7 05	7 08	7 10	7 13	7 16	7 19	7 23	7 26	7 29	7 32	7 36	7 40
21 00	26	6 59	7 01	7 04	7 06	7 09	7 12	7 15	7 18	7 21	7 24	7 28	7 31	7 35	7 38	7 42	7 46
21 48 N	31	6 02	7 05	7 07	7 10	7 13	7 16	7 19	7 22	7 26	7 29	7 33	7 37	7 40	7 44	7 48	7 52
22 58	June 5	7 06	7 09	7 12	7 14	7 17	7 21	7 24	7 27	7 31	7 34	7 38	7 42	7 46	7 50	7 54	7 59
22 57	10	7 09	7 12	7 15	7 17	7 20	7 24	7 27	7 30	7 34	7 38	7 42	7 46	7 50	7 54	7 58	8 03
23 17	15	7 10	7 13	7 16	7 19	7 22	7 25	7 28	7 32	7 35	7 39	7 43	7 47	7 51	7 56	8 01	8 06
23 26	20	7 12	7 15	7 18	7 21	7 24	7 27	7 31	7 34	7 38	7 42	7 46	7 50	7 54	7 59	8 04	8 09
23 25	25	7 13	7 16	7 19	7 22	7 25	7 28	7 32	7 35	7 39	7 43	7 47	7 51	7 55	8 00	8 04	8 09
23 14 N	30	7 14	7 16	7 19	7 22	7 25	7 28	7 32	7 35	7 39	7 42	7 46	7 50	7 54	7 59	8 04	8 09
22 52 N	July 5	7 13	7 16	7 19	7 21	7 24	7 27	7 31	7 34	7 38	7 41	7 45	7 49	7 53	7 58	8 02	8 07
22 21	10	7 12	7 14	7 17	7 20	7 23	7 26	7 29	7 32	7 36	7 39	7 43	7 47	7 50	7 55	7 59	8 04
21 40	15	7 10	7 12	7 15	7 18	7 20	7 23	7 26	7 30	7 33	7 36	7 40	7 43	7 47	7 51	7 55	8 00
20 50	20	7 08	7 11	7 13	7 15	7 18	7 21	7 24	7 27	7 30	7 33	7 36	7 40	7 43	7 47	7 51	7 55
19 50	25	7 04	7 06	7 08	7 11	7 13	7 16	7 18	7 21	7 24	7 27	7 30	7 34	7 37	7 42	7 45	7 49
18 43 N	30	7 01	7 03	7 05	7 07	7 09	7 12	7 14	7 17	7 20	7 22	7 25	7 28	7 31	7 35	7 38	7 42
17 28 N	Aug. 4	6 56	6 58	7 00	7 02	7 04	7 06	7 09	7 11	7 13	7 16	7 19	7 22	7 25	7 28	7 31	7 35
16 06	9	6 51	6 53	6 54	6 56	6 58	7 00	7 02	7 04	7 07	7 09	7 11	7 14	7 16	7 19	7 22	7 25
14 37	14	6 45	6 47	6 48	6 50	6 52	6 53	6 55	6 57	6 59	7 01	7 03	7 05	7 08	7 10	7 13	7 15
13 03	19	6 39	6 40	6 42	6 43	6 45	6 46	6 48	6 49	6 51	6 53	6 55	6 57	6 59	7 02	7 04	7 06
11 23	24	6 32	6 33	6 35	6 36	6 37	6 39	6 40	6 41	6 43	6 44	6 46	6 48	6 49	6 52	6 54	6 56
9 39 N	29	6 26	6 27	6 28	6 29	6 30	6 32	6 33	6 34	6 35	6 36	6 38	6 39	6 40	6 42	6 44	6 45
7 51 N	Sept. 3	6 18	6 19	6 20	6 21	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 29	6 31	6 32	6 34
6 00	8	6 11	6 12	6 12	6 13	6 13	6 14	6 15	6 15	6 16	6 17	6 17	6 18	6 19	6 21	6 22	6 24
4 07	13	6 03	6 04	6 04	6 05	6 05	6 05	6 06	6 06	6 07	6 07	6 07	6 08	6 08	6 10	6 10	6 11
2 11	18	5 55	5 56	5 56	5 57	5 57	5 57	5 58	5 58	5 58	5 58	5 58	5 58	5 59	5 59	5 59	5 59
0 15 N	23	5 48	5 48	5 48	5 49	5 49	5 49	5 49	5 48	5 48	5 48	5 48	5 48	5 48	5 48	5 48	5 48
1 42 S	28	5 41	5 40	5 40	5 40	5 40	5 39	5 39	5 38	5 38	5 37	5 37	5 37	5 36	5 37	5 36	5 36
3 39 S	Oct. 3	5 33	5 33	5 32	5 32	5 31	5 30	5 30	5 29	5 28	5 28	5 27	5 26	5 26	5 26	5 25	5 24
5 35	8	5 26	5 25	5 24	5 24	5 23	5 22	5 21	5 20	5 19	5 18	5 17	5 16	5 15	5 15	5 14	5 13
7 28	13	5 19	5 18	5 17	5 16	5 15	5 14	5 13	5 11	5 10	5 09	5 08	5 06	5 05	5 04	5 03	5 01
9 20	18	5 12	5 11	5 09	5 09	5 08	5 06	5 05	5 04	5 02	5 01	4 59	4 58	4 56	4 54	4 52	4 50
11 08	23	5 05	5 04	5 02	5 01	4 59	4 58	4 56	4 55	4 53	4 51	4 49	4 47	4 45	4 44	4 42	4 40
12 51 S	28	4 59	4 58	4 56	4 55	4 53	4 51	4 49	4 47	4 45	4 43	4 41	4 39	4 36	4 35	4 32	4 30
14 30 S	Nov. 2	4 54	4 52	4 50	4 48	4 46	4 44	4 42	4 40	4 38	4 35	4 33	4 30	4 28	4 25	4 22	4 19
16 03	7	4 49	4 47	4 45	4 43	4 40	4 38	4 36	4 32	4 31	4 28	4 25	4 22	4 19	4 16	4 13	4 11
17 29	12	4 44	4 42	4 40	4 38	4 35	4 33	4 30	4 27	4 25	4 22	4 19	4 15	4 12	4 09	4 05	4 01
18 48	17	4 41	4 38	4 36	4 33	4 31	4 28	4 25	4 22	4 19	4 17	4 13	4 09	4 06	4 02	3 58	3 54
19 58	22	4 38	4 35	4 33	4 30	4 27	4 24	4 21	4 18	4 15	4 12	4 08	4 04	4 00	3 56	3 52	3 48
20 59 S	27	4 36	4 33	4 30	4 27	4 24	4 21	4 18	4 15	4 11	4 08	4 04	4 00	3 56	3 52	3 47	3 43
21 51 S	Dec. 2	4 33	4 31	4 28	4 25	4 22	4 18	4 15	4 12	4 08	4 04	4 00	3 57	3 53	3 48	3 43	3 38
22 32	7	4 33	4 30	4 27	4 24	4 21	4 18	4 14	4 10	4 07	4 03	3 59	3 55	3 51	3 46	3 41	3 36
23 02	12	4 31	4 31	4 28	4 24	4 21	4 18	4 14	4 10	4 06	4 03	3 58	3 54	3 49	3 44	3 39	3 34
23 20	17	4 31	4 31	4 28	4 25	4 21	4 18	4 14	4 11	4 07</							

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

513

Declina- tion.	Approx. date.	South Latitude.															
		87°	88°	89°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°	52°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	7 24	7 27	7 30	7 33	7 36	7 40	7 43	7 47	7 51	7 55	7 59	8 03	8 07	8 12	8 16	8 23
21 53	11	7 24	7 27	7 30	7 33	7 36	7 39	7 43	7 46	7 50	7 54	7 58	8 02	8 07	8 12	8 16	8 22
21 02	16	7 22	7 25	7 27	7 30	7 33	7 36	7 39	7 42	7 46	7 49	7 53	7 57	8 00	8 05	8 11	8 16
20 01	21	7 21	7 23	7 25	7 28	7 31	7 34	7 37	7 40	7 43	7 46	7 49	7 53	7 57	8 02	8 06	8 09
18 50	26	7 17	7 20	7 22	7 24	7 27	7 30	7 32	7 35	7 38	7 41	7 44	7 48	7 51	7 56	8 00	8 03
17 31 S	31	7 14	7 16	7 18	7 20	7 22	7 25	7 27	7 30	7 32	7 35	7 38	7 42	7 45	7 49	7 52	7 56
16 04 S	Feb. 5	7 09	7 11	7 13	7 15	7 17	7 19	7 21	7 24	7 26	7 29	7 32	7 35	7 38	7 41	7 44	7 47
14 30	10	7 05	7 07	7 09	7 10	7 12	7 14	7 16	7 18	7 20	7 22	7 25	7 27	7 30	7 32	7 36	7 39
12 51	15	6 59	7 01	7 02	7 04	7 05	7 07	7 09	7 11	7 13	7 14	7 17	7 19	7 21	7 23	7 27	7 29
11 06	20	6 53	6 54	6 56	6 57	6 58	7 00	7 01	7 03	7 04	7 06	7 08	7 10	7 11	7 14	7 17	7 19
9 16 S	25	6 46	6 48	6 49	6 50	6 51	6 52	6 53	6 55	6 56	6 57	6 59	7 00	7 02	7 04	7 05	7 07
7 18 S	Mar. 2	6 40	6 41	6 41	6 42	6 43	6 44	6 45	6 46	6 47	6 48	6 49	6 51	6 52	6 53	6 54	6 56
5 23	7	6 38	6 39	6 39	6 39	6 39	6 39	6 39	6 39	6 39	6 39	6 39	6 40	6 41	6 42	6 43	6 44
3 25	12	6 25	6 26	6 26	6 26	6 27	6 27	6 28	6 28	6 29	6 29	6 30	6 30	6 31	6 32	6 32	6 33
1 27 S	17	6 18	6 18	6 18	6 18	6 19	6 19	6 19	6 19	6 20	6 20	6 20	6 20	6 21	6 21	6 21	6 21
0 32 N	22	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10
2 30 N	27	6 03	6 03	6 02	6 02	6 02	6 02	6 01	6 01	6 01	6 00	6 00	6 00	6 00	6 00	6 00	6 00
4 26 N	Apr. 1	5 56	5 55	5 55	5 54	5 54	5 53	5 52	5 52	5 51	5 51	5 50	5 50	5 49	5 48	5 48	5 48
6 21	6	5 48	5 48	5 47	5 46	5 46	5 45	5 44	5 43	5 42	5 41	5 40	5 40	5 39	5 38	5 38	5 37
8 13	11	5 41	5 40	5 39	5 38	5 38	5 36	5 36	5 34	5 33	5 32	5 31	5 29	5 28	5 27	5 27	5 25
10 01	16	5 34	5 33	5 32	5 31	5 30	5 28	5 27	5 26	5 24	5 23	5 22	5 20	5 19	5 17	5 16	5 14
11 46	21	5 28	5 26	5 25	5 24	5 22	5 21	5 19	5 18	5 16	5 14	5 13	5 11	5 09	5 07	5 06	5 04
13 25 N	26	5 22	5 20	5 19	5 17	5 15	5 14	5 12	5 10	5 08	5 06	5 04	5 02	5 00	4 58	4 56	4 54
14 59 N	May 1	5 15	5 13	5 11	5 10	5 08	5 06	5 04	5 02	5 00	4 58	4 55	4 53	4 51	4 48	4 45	4 42
16 27	6	5 08	5 07	5 05	5 04	5 03	5 00	4 57	4 55	4 53	4 51	4 48	4 45	4 43	4 39	4 36	4 34
17 48	11	5 06	5 03	5 01	4 59	4 56	4 54	4 52	4 49	4 47	4 44	4 41	4 38	4 35	4 32	4 28	4 26
19 02	16	4 51	4 49	4 47	4 44	4 42	4 40	4 37	4 34	4 31	4 28	4 25	4 22	4 19	4 15	4 12	4 10
20 04	21	4 57	4 55	4 53	4 50	4 48	4 45	4 42	4 39	4 36	4 33	4 30	4 26	4 24	4 19	4 15	4 12
21 05	26	4 55	4 52	4 49	4 47	4 44	4 41	4 38	4 35	4 32	4 29	4 25	4 22	4 18	4 14	4 10	4 07
21 53 N	31	4 52	4 49	4 46	4 44	4 41	4 38	4 34	4 31	4 28	4 25	4 21	4 17	4 13	4 09	4 04	4 01
22 31 N	June 5	4 50	4 47	4 45	4 42	4 39	4 36	4 33	4 29	4 26	4 22	4 18	4 14	4 10	4 06	4 02	3 58
23 00	10	4 49	4 47	4 44	4 41	4 38	4 35	4 32	4 28	4 24	4 21	4 17	4 13	4 09	4 04	3 59	3 55
23 18	15	4 49	4 47	4 44	4 41	4 38	4 34	4 31	4 28	4 24	4 20	4 16	4 12	4 08	4 03	3 58	3 54
23 26	20	4 50	4 47	4 44	4 42	4 38	4 35	4 32	4 28	4 25	4 21	4 17	4 13	4 09	4 04	3 59	3 54
23 24	25	4 52	4 49	4 46	4 43	4 40	4 36	4 33	4 30	4 26	4 22	4 18	4 14	4 10	4 05	4 00	3 56
23 12 N	30	4 54	4 51	4 48	4 45	4 42	4 39	4 36	4 32	4 28	4 25	4 21	4 17	4 13	4 08	4 03	3 58
22 50 N	July 5	4 55	4 52	4 49	4 47	4 43	4 40	4 37	4 34	4 30	4 27	4 24	4 20	4 16	4 11	4 07	4 02
22 17	10	4 58	4 55	4 52	4 50	4 47	4 44	4 41	4 37	4 34	4 31	4 27	4 23	4 19	4 15	4 10	4 06
21 35	15	5 02	4 59	4 57	4 54	4 51	4 48	4 46	4 42	4 39	4 36	4 32	4 29	4 25	4 21	4 17	4 12
20 44	20	5 06	5 03	5 01	4 58	4 56	4 53	4 50	4 47	4 44	4 41	4 37	4 34	4 31	4 27	4 23	4 18
19 44	25	5 09	5 07	5 05	5 02	5 00	4 57	4 55	4 52	4 49	4 46	4 43	4 40	4 37	4 33	4 29	4 25
18 36 N	30	5 12	5 10	5 08	5 06	5 03	5 01	4 59	4 56	4 53	4 51	4 48	4 45	4 42	4 39	4 35	4 32
17 20 N	Aug. 4	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 02	5 00	4 58	4 55	4 52	4 49	4 45	4 42	4 39
15 57	9	5 20	5 18	5 17	5 15	5 13	5 11	5 09	5 07	5 05	5 03	5 00	4 57	4 55	4 52	4 49	4 47
14 28	14	5 24	5 23	5 21	5 20	5 18	5 16	5 14	5 13	5 11	5 09	5 06	5 04	5 02	4 59	4 57	4 55
12 53	19	5 28	5 27	5 26	5 24	5 23	5 21	5 20	5 18	5 16	5 15	5 13	5 11	5 09	5 07	5 05	5 02
11 13	24	5 33	5 31	5 30	5 29	5 28	5 26	5 25	5 24	5 22	5 21	5 19	5 17	5 16	5 14	5 12	5 01
9 29 N	29	5 36	5 36	5 35	5 34	5 33	5 31	5 30	5 29	5 28	5 27	5 25	5 24	5 23	5 21	5 20	5 18
7 40 N	Sept. 3	5 41	5 40	5 39	5 38	5 37	5 37	5 36	5 35	5 34	5 33	5 32	5 31	5 30	5 29	5 28	5 27
5 49	8	5 45	5 44	5 43	5 43	5 42	5 42	5 41	5 41	5 40	5 39	5 38	5 38	5 37	5 36	5 35	5 35
3 55	13	5 49	5 48	5 48	5 48	5 47	5 47	5 47	5 46	5 46	5 45	5 45	5 44	5 44	5 43	5 43	5 43
2 00	18	5 53	5 53	5 53	5 52	5 52	5 52	5 52	5 52	5 52	5 51	5 51	5 51	5 51	5 51	5 51	5 51
0 03 N	23	5 57	5 57	5 57	5 57	5 57	5 57	5 57	5 58	5 57	5 58	5 58	5 58	5 58	5 58	5 59	5 59
1 54 S	28	6 01	6 01	6 02	6 02	6 02	6 03	6 03	6 03	6 04	6 04	6 05	6 05	6 06	6 06	6 07	6 07
3 51 S	Oct. 3	6 05	6 06	6 06	6 07	6 08	6 08	6 09	6 10	6 10	6 11	6 12	6 12	6 13	6 14	6 15	6 16
5 46	8	6 10	6 11	6 11	6 12	6 13	6 14	6 15	6 15	6 17	6 17	6 19	6 20	6 21	6 22	6 23	6 24
7 40	13	6 14	6 15	6 16	6 17	6 18	6 19	6 20	6 22	6 23	6 24	6 26	6 27	6 28	6 29	6 30	6 32
9 31	18	6 19	6 20	6 21	6 23	6 24	6 25	6 27	6 28	6 30	6 31	6 33	6 35	6 36	6 37	6 39	6 41
11 18	23	6 24	6 25	6 27	6 28	6 30	6 31	6 33	6 35	6 37	6 38	6 40	6 42	6 44	6 46	6 48	6 50
13 02 S	28	6 29	6 31	6 32	6 34	6 36	6 37	6 39	6 41	6 43	6 45	6 48	6 50	6 52	6 54	6 57	6 59
14 40 S	Nov. 2	6 34	6 36	6 38	6 40	6 42	6 44	6 46	6 48	6 51	6 53	6 55	6 58	7 01	7 03	7 06	7 09
16 12	7	6 40	6 42	6 44	6 46	6 48	6 50	6 53	6 55	6 58	7 00	7 03	7 06	7 09	7 11	7 15	7 18
17 38	12	6 45	6 47	6 49	6 51	6 54	6 57	6 59	7 02	7 05	7 08	7 11	7 14	7 17	7 20	7 23	7 27
18 56	17	6 50	6 53	6 55	6 57	7 00	7 03	7 06	7 09	7 12	7 15	7 18	7 22	7 25	7 28	7 32	7 36
20 06	22	6 55	6 58	7 01	7 03	7 06	7 09	7 12	7 15	7 19	7 22	7 25	7 29	7 33	7 36	7 40	7 45
21 05 S	27	7 01	7 03	7 06	7 09	7 12	7 15	7 18	7 21	7 25	7 28	7 32	7 36	7 40	7 44	7 48	7 53
21 55 S	Dec. 2	7 05	7 08	7 11	7 14	7 17	7 21	7 24	7 27	7 31	7 35	7 39	7 43	7 47	7 51	7 56	8 01
22 35	7	7 10	7 13	7 16	7 19	7 22	7 25	7 29	7 33	7 36	7 40	7 44	7 49	7 53	7 58	8 03	8 08
23 04	12	7 14	7 17	7 20	7 23	7 26	7 29	7 33	7 37	7 41	7 45	7 49	7 54	7 58	8 03	8 09	8 14
23 21	17	7 18	7 21	7 24	7 27	7 31	7 34	7 38	7 42	7 46	7 50	7 54	7 59	8 03	8 07	8 13	8 18
23 27	22	7 21	7 24	7 27	7 30	7 34	7 37	7 42	7								

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.	Approx. date.	South Latitude.															
		53°	54°	55°	56°	57°	58°	59°	60°	61°	62°	63°	64°	65°	66°	67°	68°
28 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 37	6	3 37	3 31	3 25	3 17	3 10	3 01	2 52	2 41	2 30	2 15	2 01	1 37	1 15	1 02	0 52	0 44
21 58	11	3 43	3 37	3 31	3 24	3 16	3 06	2 56	2 49	2 38	2 25	2 11	1 51	1 32	1 26	1 20	1 14
21 08	16	3 50	3 44	3 38	3 32	3 25	3 17	3 09	2 59	2 50	2 37	2 25	2 07	1 50	1 26	1 20	1 14
20 07	21	4 08	4 03	3 57	3 41	3 35	3 28	3 20	3 11	3 03	2 52	2 40	2 26	2 11	1 52	1 26	1 20
18 58	26	4 16	4 12	4 07	3 51	3 45	3 38	3 31	3 23	3 15	3 05	2 55	2 42	2 29	2 13	1 54	1 20
17 39 S	31	4 26	4 22	4 18	4 02	3 56	3 50	3 44	3 36	3 29	3 21	3 11	3 00	2 50	2 35	2 20	2 00
16 13 S	Feb. 5	4 36	4 32	4 29	4 14	4 19	4 14	4 09	4 04	3 58	3 50	3 44	3 36	3 27	3 17	3 07	2 55
14 40	10	4 46	4 43	4 39	4 36	4 32	4 27	4 23	4 18	4 13	4 07	4 01	3 54	3 47	3 39	3 30	3 19
13 01	15	4 56	4 53	4 50	4 47	4 42	4 39	4 35	4 31	4 28	4 23	4 18	4 11	4 06	3 59	3 51	3 42
11 16	20	5 06	5 03	5 01	4 58	4 55	4 52	4 49	4 45	4 42	4 38	4 34	4 28	4 23	4 18	4 11	4 04
9 28 S	25	5 15	5 13	5 11	5 09	5 07	5 04	5 02	4 58	4 56	4 52	4 49	4 43	4 40	4 36	4 31	4 25
7 30 S	Mar. 2	5 25	5 23	5 22	5 20	5 18	5 16	5 14	5 12	5 09	5 07	5 04	5 00	4 57	4 54	4 49	4 45
5 34	7	5 34	5 33	5 32	5 31	5 29	5 28	5 26	5 25	5 23	5 21	5 19	5 16	5 14	5 11	5 07	5 05
3 87	12	5 44	5 43	5 42	5 41	5 41	5 39	5 38	5 37	5 36	5 35	5 34	5 31	5 30	5 28	5 25	5 23
1 39 S	17	5 53	5 52	5 52	5 52	5 51	5 51	5 50	5 50	5 49	5 48	5 48	5 46	5 45	5 44	5 43	5 42
0 20 N	22	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 02	6 01	6 01	6 01	6 00	6 00
2 18 N	27	6 11	6 11	6 12	6 12	6 12	6 13	6 13	6 14	6 15	6 15	6 16	6 15	6 16	6 17	6 17	6 18
4 15 N	Apr. 1	6 20	6 21	6 21	6 22	6 23	6 24	6 25	6 26	6 27	6 28	6 30	6 30	6 30	6 33	6 34	6 36
6 09	6	6 28	6 30	6 31	6 32	6 34	6 35	6 37	6 38	6 40	6 42	6 44	6 45	6 47	6 49	6 51	6 54
8 02	11	6 37	6 39	6 40	6 42	6 44	6 46	6 48	6 50	6 52	6 55	6 57	6 59	7 02	7 05	7 08	7 12
9 51	16	6 46	6 48	6 50	6 52	6 54	6 57	6 59	7 02	7 05	7 08	7 11	7 14	7 18	7 22	7 25	7 30
11 35	21	6 55	6 57	6 59	7 02	7 06	7 08	7 11	7 14	7 17	7 21	7 25	7 29	7 33	7 38	7 43	7 49
13 15 N	26	7 03	7 06	7 09	7 12	7 15	7 19	7 22	7 26	7 30	7 35	7 39	7 44	7 49	7 55	8 01	8 08
14 50 N	May 1	7 13	7 16	7 19	7 23	7 25	7 29	7 33	7 38	7 43	7 48	7 53	7 58	8 05	8 12	8 19	8 28
16 19	6	7 21	7 25	7 28	7 32	7 35	7 40	7 44	7 50	7 55	8 01	8 07	8 13	8 21	8 29	8 37	8 48
17 42	11	7 29	7 33	7 37	7 42	7 46	7 50	7 55	8 01	8 07	8 13	8 21	8 28	8 36	8 46	8 56	9 08
18 55	16	7 37	7 41	7 46	7 51	7 55	8 00	8 06	8 12	8 19	8 27	8 34	8 43	8 52	9 03	9 15	9 28
19 58	21	7 45	7 49	7 54	7 59	8 03	8 10	8 16	8 22	8 30	8 39	8 47	8 57	9 07	9 20	9 34	9 51
21 00	26	7 52	7 56	8 01	8 07	8 12	8 18	8 25	8 33	8 40	8 50	8 59	9 10	9 22	9 37	9 54	10 15
21 48 N	31	7 58	8 03	8 08	8 14	8 20	8 27	8 34	8 42	8 50	9 00	9 10	9 23	9 36	9 53	10 13	10 40
22 28 N	June 5	8 04	8 09	8 15	8 20	8 26	8 34	8 41	8 50	8 59	9 10	9 21	9 34	9 49	10 07	10 31	11 00
22 57	10	8 08	8 14	8 18	8 25	8 32	8 39	8 47	8 56	9 06	9 17	9 29	9 44	10 00	10 20	10 49	11 00
23 17	15	8 11	8 17	8 23	8 29	8 36	8 44	8 52	9 01	9 11	9 23	9 35	9 51	10 08	10 31	11 05	11 00
23 26	20	8 14	8 20	8 26	8 32	8 39	8 47	8 55	9 04	9 14	9 26	9 38	9 54	10 11	10 35	11 12	11 00
23 25	25	8 15	8 21	8 26	8 33	8 40	8 48	8 56	9 05	9 15	9 27	9 39	9 55	10 12	10 36	11 10	11 00
23 14 N	30	8 14	8 20	8 25	8 32	8 39	8 47	8 54	9 04	9 13	9 25	9 37	9 53	10 08	10 30	11 02	11 00
22 52 N	July 5	8 12	8 18	8 23	8 30	8 36	8 44	8 51	9 00	9 09	9 20	9 32	9 48	10 03	10 23	10 48	11 00
22 21	10	8 09	8 14	8 20	8 26	8 32	8 39	8 46	8 55	9 03	9 14	9 26	9 40	9 54	10 12	10 31	11 00
21 40	15	8 06	8 11	8 16	8 21	8 27	8 34	8 41	8 49	8 57	9 06	9 17	9 30	9 42	9 58	10 18	11 00
20 50	20	8 00	8 05	8 10	8 16	8 21	8 27	8 34	8 41	8 48	8 57	9 07	9 18	9 29	9 43	10 00	10 20
19 50	25	7 53	7 58	8 03	8 08	8 12	8 19	8 24	8 31	8 38	8 46	8 55	9 05	9 15	9 27	9 41	9 58
18 48 N	30	7 46	7 50	7 55	7 59	8 04	8 09	8 14	8 20	8 26	8 33	8 42	8 50	8 59	9 10	9 22	9 36
17 28 N	Aug. 4	7 38	7 42	7 45	7 50	7 55	7 59	8 04	8 09	8 15	8 21	8 29	8 36	8 44	8 53	9 03	9 15
16 06	9	7 28	7 32	7 35	7 39	7 43	7 47	7 51	7 56	8 02	8 08	8 14	8 21	8 27	8 35	8 43	8 54
14 37	14	7 18	7 22	7 25	7 28	7 31	7 35	7 39	7 43	7 48	7 54	7 59	8 05	8 10	8 17	8 24	8 33
13 03	19	7 09	7 11	7 14	7 17	7 20	7 23	7 27	7 30	7 34	7 39	7 43	7 48	7 53	7 58	8 04	8 12
11 23	24	6 58	7 00	7 02	7 05	7 08	7 10	7 13	7 16	7 19	7 24	7 27	7 31	7 35	7 40	7 45	7 51
9 39 N	29	6 47	6 48	6 50	6 53	6 56	6 57	6 59	7 02	7 04	7 08	7 11	7 14	7 17	7 21	7 25	7 30
7 51 N	Sept. 3	6 35	6 36	6 38	6 40	6 42	6 44	6 45	6 47	6 49	6 52	6 54	6 57	6 59	7 02	7 05	7 09
6 00	8	6 24	6 24	6 25	6 27	6 28	6 30	6 31	6 32	6 34	6 36	6 38	6 39	6 41	6 43	6 45	6 49
4 07	13	6 12	6 12	6 13	6 14	6 15	6 15	6 16	6 17	6 18	6 20	6 21	6 22	6 23	6 24	6 25	6 28
2 11	18	5 59	6 00	6 00	6 01	6 01	6 02	6 02	6 02	6 02	6 04	6 04	6 04	6 04	6 05	6 05	6 08
0 15 N	23	5 47	5 47	5 47	5 48	5 47	5 47	5 47	5 47	5 47	5 47	5 47	5 46	5 46	5 46	5 45	5 45
1 42 S	28	5 35	5 35	5 34	5 34	5 34	5 33	5 32	5 32	5 31	5 31	5 30	5 29	5 28	5 26	5 25	5 24
3 39 S	Oct. 3	5 23	5 22	5 21	5 21	5 20	5 19	5 18	5 16	5 15	5 14	5 13	5 11	5 09	5 07	5 05	5 04
5 35	8	5 11	5 10	5 08	5 08	5 07	5 05	5 03	5 01	4 59	4 58	4 56	4 54	4 52	4 48	4 45	4 41
7 28	13	5 00	4 58	4 56	4 55	4 53	4 51	4 49	4 46	4 44	4 42	4 39	4 36	4 32	4 26	4 24	4 20
9 20	18	4 48	4 46	4 44	4 42	4 40	4 37	4 35	4 31	4 28	4 26	4 22	4 18	4 14	4 09	4 04	3 58
11 08	23	4 37	4 34	4 32	4 30	4 27	4 24	4 21	4 17	4 13	4 10	4 05	4 01	3 55	3 49	3 43	3 36
12 51 S	28	4 26	4 24	4 21	4 17	4 14	4 10	4 06	4 02	3 58	3 54	3 49	3 43	3 37	3 30	3 22	3 13
14 30 S	Nov. 2	4 16	4 13	4 09	4 06	4 02	3 57	3 53	3 48	3 43	3 38	3 32	3 25	3 17	3 09	3 00	2 50
16 08	7	4 07	4 03	3 59	3 55	3 51	3 46	3 42	3 35	3 29	3 23	3 16	3 07	2 59	2 49	2 38	2 28
17 29	12	3 58	3 54	3 50	3 45	3 40	3 34	3 29	3 22	3 15	3 08	3 01	2 50	2 41	2 29	2 16	2 06
18 48	17	3 50	3 46	3 41	3 36	3 30	3 24	3 18	3 10	3 03	2 55	2 46	2 34	2 23	2 09	1 53	1 35
19 58	22	3 44	3 38	3 33	3 27	3 22	3 15	3 08	3 00	2 51	2 42	2 32	2 18	2 06	1 49	1 28	1 02
20 59 S	27	3 38	3 32	3 27	3 21	3 14	3 07	2 59	2 50	2 41	2 31	2 19	2 04	1 49	1 28	1 02	0 00
21 51 S	Dec. 2	3 33	3 27	3 22	3 15	3 08	3 00	2 52	2 42	2 32	2 21	2 08	1 50	1 33	1 06	0 22	0 00
22 32	7	3 30	3 24	3 19	3 11	3 04	2 56	2 47	2 36	2 26	2 13	2 00	1 39	1 18	0 42	0 00	0 00
23 02	12	3 27	3 21	3 15	3 08	3 01	2 52	2 43	2 32	2 21	2 06	1 51	1 27	1 03	0 22	0 00	0 00
23 20	17	3 24	3 21	3 15	3 07	3 00	2 50	2 41	2 30	2 18	2 02	1 47	1 21	0 55	0 22	0 00	0 00
23 27	22	3 30	3 23	3 17													

TABLE 10.—MEAN LOCAL TIME OF SUN SET.

515

Declina- tion.	Approx. date.	South Latitude.															
		53°	54°	55°	56°	57°	58°	59°	60°	61°	62°	63°	64°	65°	66°	67°	68°
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
22 34	6	8 29	8 36	8 43	8 50	8 57	9 06	9 15	9 26	9 37	9 52	10 06	10 28	10 51	11 16	11 55	12 34
21 53	11	8 28	8 34	8 40	8 47	8 54	9 03	9 11	9 22	9 32	9 45	9 59	10 18	10 37	10 51	11 16	11 55
21 02	16	8 25	8 31	8 37	8 43	8 50	8 59	9 07	9 16	9 26	9 39	9 51	10 08	10 26	10 41	11 00	11 30
20 01	21	8 21	8 26	8 32	8 39	8 45	8 52	8 59	9 08	9 18	9 29	9 40	9 54	10 08	10 28	10 54	11 57
18 50	26	8 15	8 20	8 25	8 31	8 37	8 44	8 50	8 58	9 06	9 16	9 26	9 39	9 52	10 07	10 27	10 56
17 31 S	31	8 08	8 12	8 17	8 22	8 28	8 34	8 40	8 47	8 54	9 03	9 12	9 23	9 34	9 47	10 03	10 21
		8 01	8 05	8 09	8 13	8 18	8 23	8 29	8 36	8 42	8 50	8 58	9 07	9 18	9 28	9 41	9 57
16 04 S	Feb. 5	7 52	7 55	7 59	8 03	8 07	8 12	8 18	8 23	8 29	8 35	8 43	8 50	8 59	9 08	9 21	9 32
14 30	10	7 42	7 45	7 49	7 52	7 56	8 00	8 06	8 10	8 15	8 21	8 27	8 34	8 41	8 49	8 58	9 08
12 51	15	7 32	7 35	7 37	7 40	7 43	7 47	7 52	7 56	8 00	8 05	8 10	8 16	8 21	8 29	8 36	8 44
11 06	20	7 21	7 23	7 26	7 28	7 31	7 34	7 38	7 42	7 46	7 50	7 54	7 58	8 04	8 09	8 15	8 22
9 16 S	25	7 09	7 12	7 13	7 16	7 18	7 20	7 23	7 27	7 30	7 33	7 37	7 41	7 46	7 50	7 54	8 00
7 18 S	Mar. 2	6 57	6 59	7 01	7 03	7 05	7 07	7 09	7 11	7 14	7 17	7 19	7 22	7 25	7 29	7 33	7 37
5 23	7	6 46	6 47	6 49	6 50	6 51	6 53	6 54	6 56	6 59	7 00	7 02	7 04	7 07	7 10	7 13	7 15
3 25	12	6 34	6 34	6 36	6 37	6 38	6 39	6 40	6 41	6 43	6 44	6 45	6 47	6 48	6 51	6 52	6 54
1 27 S	17	6 22	6 22	6 23	6 24	6 24	6 25	6 25	6 26	6 27	6 28	6 28	6 29	6 30	6 31	6 32	6 33
0 32 N	22	6 10	6 09	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11	6 11
2 30 N	27	5 58	5 57	5 58	5 57	5 57	5 56	5 56	5 56	5 56	5 55	5 54	5 54	5 53	5 52	5 51	5 50
4 26 N	Apr. 1	5 47	5 46	5 45	5 44	5 43	5 43	5 42	5 41	5 40	5 39	5 38	5 36	5 34	5 33	5 31	5 29
6 21	6	5 36	5 34	5 33	5 31	5 30	5 30	5 28	5 26	5 25	5 23	5 21	5 19	5 16	5 14	5 11	5 08
8 13	11	5 24	5 22	5 20	5 19	5 17	5 16	5 14	5 11	5 09	5 07	5 04	5 01	4 58	4 55	4 51	4 48
10 01	16	5 12	5 10	5 08	5 06	5 04	5 03	5 00	4 57	4 54	4 51	4 48	4 44	4 40	4 36	4 32	4 27
11 46	21	5 01	4 59	4 57	4 54	4 52	4 50	4 47	4 42	4 40	4 36	4 32	4 27	4 23	4 18	4 12	4 06
13 25 N	26	4 51	4 48	4 46	4 43	4 39	4 37	4 33	4 29	4 25	4 21	4 16	4 11	4 04	3 59	3 52	3 45
14 59 N	May 1	4 40	4 37	4 34	4 31	4 27	4 23	4 19	4 15	4 12	4 06	4 03	3 55	3 49	3 42	3 34	3 25
16 27	6	4 31	4 27	4 24	4 20	4 16	4 11	4 07	4 02	3 57	3 51	3 45	3 39	3 31	3 24	3 14	3 05
17 48	11	4 22	4 18	4 14	4 10	4 06	4 01	3 56	3 50	3 45	3 38	3 31	3 23	3 15	3 05	2 54	2 44
19 02	16	4 14	4 10	4 06	4 01	3 56	3 51	3 45	3 39	3 33	3 25	3 17	3 08	2 59	2 48	2 35	2 22
20 04	21	4 08	4 03	3 58	3 53	3 48	3 42	3 37	3 29	3 22	3 14	3 05	2 54	2 45	2 32	2 16	2 00
21 05	26	4 02	3 57	3 52	3 46	3 41	3 34	3 28	3 20	3 13	3 03	2 54	2 42	2 30	2 16	1 58	1 36
21 53 N	31	3 56	3 51	3 45	3 40	3 35	3 28	3 20	3 12	3 05	2 54	2 44	2 31	2 17	2 01	1 40	1 12
22 31 N	June 5	3 52	3 47	3 41	3 36	3 29	3 22	3 15	3 06	2 57	2 46	2 35	2 22	2 07	1 48	1 23	0 45
23 00	10	3 49	3 45	3 39	3 32	3 26	3 18	3 10	3 01	2 52	2 41	2 30	2 14	1 58	1 37	1 07	Does not rise
23 18	15	3 48	3 43	3 38	3 31	3 24	3 16	3 08	2 59	2 49	2 37	2 23	2 09	1 52	1 29	0 55	not rise
23 26	20	3 48	3 43	3 37	3 31	3 24	3 15	3 07	2 58	2 48	2 36	2 24	2 07	1 51	1 27	0 50	June 10 to July 3.
23 24	25	3 50	3 44	3 39	3 32	3 25	3 17	3 09	3 00	2 50	2 38	2 26	2 09	1 53	1 30	0 54	July 3.
23 12 N	30	3 53	3 47	3 42	3 35	3 28	3 20	3 13	3 03	2 54	2 42	2 31	2 15	1 59	1 37	1 06	0 28
22 50 N	July 5	3 57	3 51	3 46	3 39	3 33	3 25	3 18	3 09	3 00	2 48	2 37	2 22	2 06	1 46	1 20	0 28
22 17	10	4 01	3 55	3 50	3 44	3 38	3 31	3 24	3 15	3 07	2 56	2 46	2 32	2 17	2 00	1 38	1 04
21 35	15	4 07	4 02	3 56	3 51	3 45	3 38	3 31	3 23	3 15	3 06	2 56	2 44	2 30	2 15	1 56	1 30
20 44	20	4 14	4 09	4 03	3 58	3 53	3 46	3 40	3 33	3 25	3 17	3 07	2 56	2 45	2 31	2 14	1 54
19 44	25	4 21	4 17	4 11	4 06	4 01	3 55	3 50	3 43	3 35	3 27	3 19	3 09	2 59	2 47	2 32	2 17
18 36 N	30	4 28	4 23	4 19	4 14	4 09	4 04	3 59	3 53	3 47	3 40	3 31	3 23	3 14	3 04	2 52	2 38
17 20 N	Aug. 4	4 35	4 32	4 27	4 23	4 19	4 14	4 09	4 04	3 58	3 52	3 45	3 37	3 30	3 21	3 11	3 00
15 57	9	4 43	4 40	4 37	4 33	4 29	4 25	4 21	4 16	4 10	4 05	3 58	3 52	3 45	3 38	3 29	3 20
14 28	14	4 52	4 48	4 45	4 42	4 38	4 34	4 31	4 27	4 23	4 18	4 12	4 06	4 01	3 54	3 47	3 39
12 53	19	5 00	4 56	4 54	4 51	4 48	4 45	4 42	4 38	4 35	4 21	4 26	4 21	4 16	4 11	4 05	3 58
11 13	24	5 08	5 05	5 03	5 01	4 58	4 56	4 53	4 50	4 47	4 44	4 39	4 35	4 31	4 27	4 22	4 17
9 29 N	29	5 17	5 14	5 12	5 10	5 08	5 06	5 04	5 02	4 59	4 56	4 53	4 49	4 47	4 43	4 39	4 35
7 40 N	Sept. 3	5 25	5 23	5 22	5 20	5 18	5 17	5 15	5 13	5 12	5 09	5 06	5 04	5 01	4 59	4 56	4 53
5 49	8	5 34	5 32	5 31	5 30	5 29	5 27	5 26	5 25	5 24	5 22	5 20	5 18	5 16	5 14	5 12	5 10
3 55	13	5 42	5 40	5 40	5 39	5 39	5 38	5 37	5 36	5 36	5 35	5 33	5 32	5 31	5 30	5 29	5 27
2 00	18	5 51	5 50	5 49	5 49	5 49	5 50	5 49	5 48	5 48	5 48	5 47	5 46	5 46	5 46	5 45	5 45
0 08 N	23	5 59	5 58	5 58	5 59	5 59	5 59	6 00	6 00	6 00	6 01	6 00	6 01	6 01	6 01	6 02	6 03
1 54 S	28	6 08	6 08	6 08	6 09	6 10	6 10	6 11	6 12	6 13	6 14	6 14	6 15	6 16	6 17	6 19	6 20
3 51 S	Oct. 3	6 17	6 17	6 18	6 19	6 20	6 21	6 23	6 24	6 26	6 27	6 28	6 30	6 32	6 34	6 36	6 39
5 46	8	6 26	6 26	6 27	6 29	6 31	6 33	6 34	6 36	6 38	6 41	6 42	6 45	6 47	6 50	6 53	6 57
7 40	13	6 34	6 36	6 37	6 40	6 41	6 43	6 45	6 48	6 50	6 52	6 55	6 59	7 02	7 06	7 10	7 15
9 31	18	6 43	6 45	6 48	6 50	6 52	6 55	6 57	7 01	7 03	7 07	7 10	7 15	7 19	7 24	7 29	7 35
11 18	23	6 53	6 55	6 58	7 01	7 03	7 06	7 10	7 14	7 16	7 21	7 24	7 30	7 35	7 40	7 46	7 54
13 02 S	28	7 02	7 05	7 08	7 12	7 15	7 18	7 22	7 27	7 30	7 36	7 41	7 47	7 51	7 59	8 07	8 16
14 40 S	Nov. 2	7 12	7 16	7 19	7 23	7 26	7 31	7 35	7 40	7 45	7 51	7 57	8 04	8 11	8 19	8 29	8 39
16 12	7	7 22	7 26	7 30	7 34	7 38	7 43	7 48	7 54	7 59	8 06	8 12	8 21	8 29	8 38	8 50	9 04
17 38	12	7 31	7 36	7 40	7 45	7 49	7 55	8 01	8 07	8 13	8 21	8 29	8 39	8 49	8 58	9 12	9 29
18 55	17	7 41	7 46	7 50	7 56	8 01	8 07	8 13	8 21	8 29	8 37	8 46	8 58	9 08	9 21	9 37	9 58
20 05	22	7 50	7 55	8 00	8 06	8 12	8 19	8 26	8 34	8 43	8 53	9 02	9 16	9 28	9 46	10 05	10 34
21 05 S	27	7 58	8 04	8 10	8 16	8 22	8 30	8 37	8 46	8 56	9 07	9 18	9 34	9 48	10 09	10 37	10 57
21 55 S	Dec. 2	8 06	8 12	8 18	8 25	8 31	8 39	8 48	9 58	9 07	9 20	9 33	9 51	10 08	10 34	11 22	11 55
22 35	7	8 13	8 19	8 26	8 33	8 40	8 49	8 58	9 08	9 18	9 32	9 46	10 07	10 28	11 03	11 55	12 34
23 04	12	8 19	8 25	8 32	8 39	8 47	8 56	9 05	9 16	9 28	9 43	9 58	10 22	10 46	11 08	11 55	12 34
23 21	17	8 24	8 31	8 36	8												

TABLE 10.—MEAN LOCAL TIME OF SUN RISE.

Declina- tion.		Approx. date.	South Latitude.															
			69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	80°	82°	84°	86°	88°	90°
23 05S	Jan. 1	1	Sun does not set between—				Sun does not set between—				Sun does not set between—				Sun does not set between—			
22 37	6	6	Nov. 22	Nov. 18	Nov. 14	Nov. 10	Nov. 7	Nov. 4	Oct. 31	Oct. 28	Oct. 25	Oct. 23	Oct. 17	Oct. 12	Oct. 6	Oct. 1	Sept. 26	Sept. 21
21 58	11	11	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
21 08	16	16	Jan. 20	Jan. 24	Jan. 28	Feb. 1	Feb. 4	Feb. 7	Feb. 11	Feb. 14	Feb. 17	Feb. 19	Feb. 25	Mar. 2	Mar. 7	Mar. 12	Mar. 17	Mar. 23
20 07	21	21	0 41	0 36	0 31	0 26	0 21	0 16	0 11	0 06	116	120	132	142	153	163	173	184
18 58	26	26	1 36	1 31	1 26	1 21	1 16	1 11	1 06	1 01	1 42	1 40	1 42	1 40	1 38	1 36	1 34	1 32
17 39S	31	31	2 11	2 06	2 01	1 56	1 51	1 46	1 41	1 36	2 28	2 26	2 28	2 26	2 24	2 22	2 20	2 18
16 13S	Feb. 5	5	2 41	2 36	2 31	2 26	2 21	2 16	2 11	2 06	3 47	3 45	3 47	3 45	3 43	3 41	3 39	3 37
14 40	10	10	3 09	3 04	3 00	2 55	2 50	2 45	2 40	2 35	4 33	4 31	4 33	4 31	4 29	4 27	4 25	4 23
13 01	15	15	3 33	3 28	3 24	3 19	3 14	3 09	3 04	2 59	5 09	5 07	5 09	5 07	5 05	5 03	5 01	4 59
11 16	20	20	3 56	3 51	3 47	3 42	3 37	3 32	3 27	3 22	5 49	5 47	5 49	5 47	5 45	5 43	5 41	5 39
9 28S	25	25	4 18	4 12	4 08	4 03	3 58	3 53	3 48	3 43	6 27	6 25	6 27	6 25	6 23	6 21	6 19	6 17
7 30S	Mar. 2	2	4 41	4 36	4 30	4 24	4 18	4 12	4 06	3 40	6 58	6 56	6 58	6 56	6 54	6 52	6 50	6 48
5 34	7	7	5 02	4 57	4 50	4 44	4 38	4 32	4 26	3 34	7 24	7 22	7 24	7 22	7 20	7 18	7 16	7 14
3 37	12	12	5 21	5 16	5 10	5 04	4 58	4 52	4 46	3 22	8 00	7 58	8 00	7 58	7 56	7 54	7 52	7 50
1 39S	17	17	5 42	5 36	5 30	5 24	5 18	5 12	5 06	2 57	8 35	8 33	8 35	8 33	8 31	8 29	8 27	8 25
0 20N	22	22	6 00	5 54	5 48	5 42	5 36	5 30	5 24	2 47	9 14	9 12	9 14	9 12	9 10	9 08	9 06	9 04
2 18N	27	27	6 19	6 13	6 07	6 01	5 55	5 49	5 43	2 27	9 31	9 29	9 31	9 29	9 27	9 25	9 23	9 21
4 15N	Apr. 1	1	6 38	6 30	6 24	6 18	6 12	6 06	6 00	1 59	10 02	10 00	10 02	10 00	9 98	9 96	9 94	9 92
6 09	6	6	6 58	6 49	6 43	6 37	6 31	6 25	6 19	1 36	10 24	10 22	10 24	10 22	10 20	10 18	10 16	10 14
8 02	11	11	7 16	7 07	7 01	6 55	6 49	6 43	6 37	1 13	10 46	10 44	10 46	10 44	10 42	10 40	10 38	10 36
9 51	16	16	7 36	7 27	7 21	7 15	7 09	7 03	6 57	0 59	11 09	11 07	11 09	11 07	11 05	11 03	11 01	10 99
11 35	21	21	7 56	7 47	7 41	7 35	7 29	7 23	7 17	0 32	11 31	11 29	11 31	11 29	11 27	11 25	11 23	11 21
13 15N	26	26	8 15	8 06	8 00	7 54	7 48	7 42	7 36	0 07	11 53	11 51	11 53	11 51	11 49	11 47	11 45	11 43
14 50N	May 1	1	8 37	8 28	8 22	8 16	8 10	8 04	7 58	0 00	12 11	12 09	12 11	12 09	12 07	12 05	12 03	12 01
16 19	6	6	8 58	8 49	8 43	8 37	8 31	8 25	8 19	0 00	12 33	12 31	12 33	12 31	12 29	12 27	12 25	12 23
17 42	11	11	9 21	9 12	9 06	9 00	8 54	8 48	8 42	0 00	12 55	12 53	12 55	12 53	12 51	12 49	12 47	12 45
18 55	16	16	9 46	9 37	9 31	9 25	9 19	9 13	9 07	0 00	1 17	1 15	1 17	1 15	1 13	1 11	1 09	1 07
19 58	21	21	10 11	10 02	9 56	9 50	9 44	9 38	9 32	0 00	1 39	1 37	1 39	1 37	1 35	1 33	1 31	1 29
21 00	26	26	10 42	10 33	10 27	10 21	10 15	10 09	10 03	0 00	1 59	1 57	1 59	1 57	1 55	1 53	1 51	1 49
21 48N	31	31	11 02	10 53	10 47	10 41	10 35	10 29	10 23	0 00	2 21	2 19	2 21	2 19	2 17	2 15	2 13	2 11
22 28N	June 5	5	Sun does not rise between—				Sun does not rise between—				Sun does not rise between—				Sun does not rise between—			
22 57	10	10	June 1	May 26	May 21	May 16	May 12	May 9	May 5	May 2	Apr. 28	Apr. 25	Apr. 19	Apr. 14	Apr. 8	Apr. 3	Mar. 29	Mar. 24
23 17	15	15	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 26	20	20	July 12	July 20	July 24	July 28	Aug. 1	Aug. 5	Aug. 9	Aug. 12	Aug. 15	Aug. 19	Aug. 25	Aug. 30	Sept. 5	Sept. 10	Sept. 15	Sept. 20
23 25	25	25	42	56	65	74	82	89	97	103	110	117	129	139	151	161	171	181
23 14N	30	30	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.
22 52N	July 5	5	11 28	11 23	11 19	11 14	11 09	11 04	10 59	10 54	11 57	11 55	11 57	11 55	11 53	11 51	11 49	11 47
22 21	10	10	10 47	10 42	10 38	10 33	10 28	10 23	10 18	10 13	10 35	10 33	10 35	10 33	10 31	10 29	10 27	10 25
21 40	15	15	10 19	10 14	10 10	10 05	10 00	9 55	9 50	9 45	10 07	10 05	10 07	10 05	10 03	10 01	9 99	9 97
20 50	20	20	10 47	10 42	10 38	10 33	10 28	10 23	10 18	10 13	10 35	10 33	10 35	10 33	10 31	10 29	10 27	10 25
19 50	25	25	10 19	10 14	10 10	10 05	10 00	9 55	9 50	9 45	10 07	10 05	10 07	10 05	10 03	10 01	9 99	9 97
18 48N	30	30	9 53	9 48	9 44	9 39	9 34	9 29	9 24	9 19	9 41	9 39	9 41	9 39	9 37	9 35	9 33	9 31
17 28N	Aug. 4	4	9 27	9 22	9 18	9 13	9 08	9 03	8 58	8 53	9 15	9 13	9 15	9 13	9 11	9 09	9 07	9 05
16 06	9	9	9 05	9 00	8 56	8 51	8 46	8 41	8 36	8 31	8 53	8 51	8 53	8 51	8 49	8 47	8 45	8 43
14 37	14	14	8 42	8 37	8 33	8 28	8 23	8 18	8 13	8 08	8 30	8 28	8 30	8 28	8 26	8 24	8 22	8 20
13 03	19	19	8 19	8 14	8 10	8 05	8 00	7 55	7 50	7 45	8 07	8 05	8 07	8 05	8 03	8 01	7 99	7 97
11 23	24	24	7 57	7 52	7 48	7 43	7 38	7 33	7 28	7 23	7 49	7 47	7 49	7 47	7 45	7 43	7 41	7 39
9 39N	29	29	7 35	7 30	7 26	7 21	7 16	7 11	7 06	7 01	7 23	7 21	7 23	7 21	7 19	7 17	7 15	7 13
7 51N	Sept. 3	3	7 13	7 08	7 04	6 59	6 54	6 49	6 44	6 39	6 55	6 53	6 55	6 53	6 51	6 49	6 47	6 45
6 00	8	8	6 51	6 46	6 42	6 37	6 32	6 27	6 22	6 17	6 39	6 37	6 39	6 37	6 35	6 33	6 31	6 29
4 07	13	13	6 29	6 24	6 20	6 15	6 10	6 05	6 00	5 55	6 17	6 15	6 17	6 15	6 13	6 11	6 09	6 07
2 11	18	18	6 06	6 01	5 57	5 52	5 47	5 42	5 37	5 32	5 59	5 57	5 59	5 57	5 55	5 53	5 51	5 49
0 15N	23	23	5 44	5 39	5 35	5 30	5 25	5 20	5 15	5 10	5 37	5 35	5 37	5 35	5 33	5 31	5 29	5 27
1 42S	28	28	5 22	5 17	5 13	5 08	5 03	4 58	4 53	4 48	5 05	5 03	5 05	5 03	5 01	4 59	4 57	4 55
3 39S	Oct. 3	3	5 00	4 55	4 51	4 46	4 41	4 36	4 31	4 26	4 29	4 27	4 29	4 27	4 25	4 23	4 21	4 19
5 35	8	8	4 28	4 23	4 19	4 14	4 09	4 04	3 59	3 54	4 11	4 09	4 11	4 09	4 07	4 05	4 03	4 01
7 28	13	13	4 15	4 10	4 06	4 01	3 56	3 51	3 46	3 41	3 53	3 51	3 53	3 51	3 49	3 47	3 45	3 43
9 20	18	18	3 52	3 47	3 43	3 38	3 33	3 28	3 23	3 18	3 35	3 33	3 35	3 33	3 31	3 29	3 27	3 25
11 08	23	23	3 28	3 23	3 19	3 14	3 09	3 04	2 59	2 54	3 11	3 09	3 11	3 09	3 07	3 05	3 03	3 01
12 51S	28	28	3 04	2 59	2 55	2 50	2 45	2 40	2 35	2 30	2 47	2 45	2 47	2 45	2 43	2 41	2 39	2 37
14 30S	Nov. 2	2	2 38	2 33	2 29	2 24	2 19	2 14	2 09	2 04	2 21	2 19	2 21	2 19	2 17	2 15	2 13	2 11
16 03	7	7	2 10	2 05	2 01	1 56	1 51	1 46	1 41	1 36	1 53	1 51	1 53	1 51	1 49	1 47	1 45	1 43
17 29	12	12	1 42	1 37	1 33	1 28	1 23	1 18	1 13	1 08	1 25	1 23	1 25	1 2				

TABLE 10.—MEAN LOCAL TIME OF SUN SET

Declination.	Approx. date.	South Latitude.															
		69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	80°	82°	84°	86°	88°	90°
23 03S	Jan. 1	Sun does not set between—				Sun does not set between—				Sun does not set between—				Sun does not set between—			
22 34	6	Nov. 22	Nov. 18	Nov. 14	Nov. 10	Nov. 7	Nov. 4	Oct. 31	Oct. 28	Oct. 25	Oct. 23	Oct. 17	Oct. 12	Oct. 6	Oct. 1	Sept. 26	Sept. 21
21 53	11	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
21 02	16	Jan. 20	Jan. 24	Jan. 28	Feb. 1	Feb. 4	Feb. 7	Feb. 11	Feb. 14	Feb. 17	Feb. 19	Feb. 25	Mar. 2	Mar. 7	Mar. 12	Mar. 17	May 23
20 01	21	11 37	11 36	76	84	90	96	104	110	116	120	132	142	153	163	173	184
18 50	26	10 50	10 40	76	84	90	96	104	110	116	120	132	142	153	163	173	184
17 31S	31	10 16	10 40	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16	11 16
16 04S	Feb. 5	9 47	10 03	10 25	10 55	11 39	12 12	12 49	13 84	14 41	15 58	17 17	18 39	19 56	21 11	22 24	23 34
14 30	10	9 19	9 32	9 46	10 06	10 28	10 49	11 84	12 84	13 84	14 84	15 84	16 84	17 84	18 84	19 84	20 84
12 51	15	8 53	9 04	9 15	9 30	9 45	10 06	10 49	11 84	12 84	13 84	14 84	15 84	16 84	17 84	18 84	19 84
11 06	20	8 29	8 38	8 47	8 58	9 10	9 24	9 44	10 05	10 41	11 16	11 51	12 26	13 01	13 76	14 51	15 26
9 16S	25	8 06	8 12	8 20	8 28	8 37	8 47	8 58	9 14	9 33	9 58	10 23	10 48	11 23	11 48	12 23	12 48
7 18S	Mar. 2	7 42	7 47	7 53	7 59	8 06	8 15	8 23	8 38	8 46	9 00	9 53	10 39	11 25	12 11	12 97	13 83
5 23	7	7 20	7 23	7 28	7 32	7 38	7 43	7 50	7 57	8 07	8 17	8 47	9 39	10 25	11 11	11 97	12 83
3 25	12	6 57	6 59	7 03	7 06	7 10	7 13	7 18	7 23	7 29	7 35	7 53	8 22	8 51	9 20	9 49	10 18
1 27S	17	6 35	6 36	6 38	6 40	6 42	6 44	6 47	6 49	6 52	6 55	7 04	7 18	7 42	8 35	9 28	10 21
0 32S	22	6 12	6 12	6 14	6 14	6 15	6 15	6 16	6 16	6 16	6 17	6 17	6 19	6 23	6 30	6 54	7 28
2 30N	27	5 50	5 49	5 49	5 47	5 46	5 45	5 44	5 42	5 40	5 37	5 30	5 21	5 06	4 34	2 40	Mar. 23
4 26N	Apr. 1	5 28	5 26	5 24	5 21	5 19	5 16	5 13	5 08	5 04	4 58	4 43	4 21	3 42	2 00	—	—
6 21	6	5 06	5 03	5 00	4 56	4 52	4 46	4 41	4 34	4 27	4 18	3 53	3 13	1 45	—	—	—
8 13	11	4 44	4 40	4 35	4 29	4 24	4 16	4 08	3 58	3 47	3 35	2 56	1 40	—	—	—	—
10 01	16	4 22	4 16	4 10	4 02	3 55	3 45	3 34	3 21	3 07	2 45	1 40	—	—	—	—	—
11 46	21	4 00	3 52	3 45	3 35	3 25	3 11	2 55	2 39	2 19	1 42	—	—	—	—	—	—
13 25N	26	3 37	3 28	3 19	3 06	2 52	2 35	2 15	1 48	—	—	—	—	—	—	—	—
14 59N	May 1	3 16	3 04	2 52	2 36	2 20	1 54	1 19	—	—	—	—	—	—	—	—	—
16 27	6	2 52	2 38	2 23	2 02	1 37	0 55	—	—	—	—	—	—	—	—	—	—
17 48	11	2 29	2 11	1 50	1 21	—	—	—	—	—	—	—	—	—	—	—	—
19 02	16	2 05	1 41	1 10	—	—	—	—	—	—	—	—	—	—	—	—	—
20 04	21	1 40	1 07	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21 05	26	1 01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21 53N	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22 31N	June 5	Sun does not rise between—				Sun does not rise between—				Sun does not rise between—				Sun does not rise between—			
23 00	10	June 1	May 26	May 21	May 16	May 12	May 9	May 5	May 2	Apr. 28	Apr. 25	Apr. 19	Apr. 14	Apr. 8	Apr. 3	Mar. 29	Mar. 24
23 18	15	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 26	20	July 12	July 20	July 24	July 28	Aug. 1	Aug. 5	Aug. 9	Aug. 12	Aug. 15	Aug. 19	Aug. 25	Aug. 30	Sept. 5	Sept. 10	Sept. 15	Sept. 20
23 24	25	42	56	65	74	82	89	97	103	110	117	129	139	151	161	171	181
23 12N	30	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.
22 50N	July 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22 17	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21 35	15	0 44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20 44	20	1 25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19 44	25	1 56	1 30	0 41	—	—	—	—	—	—	—	—	—	—	—	—	—
18 36N	30	2 22	2 02	1 36	0 52	—	—	—	—	—	—	—	—	—	—	—	—
17 20N	Aug. 4	2 46	2 31	2 11	1 47	1 10	—	—	—	—	—	—	—	—	—	—	—
15 57	9	8 08	2 56	2 41	2 23	2 01	1 28	0 30	—	—	—	—	—	—	—	—	—
14 28	14	3 30	3 20	3 07	2 45	2 37	2 17	1 51	1 05	—	—	—	—	—	—	—	—
12 53	19	3 50	3 42	3 31	3 21	3 08	2 54	2 35	2 12	1 30	0 25	—	—	—	—	—	—
11 13	24	4 10	4 03	3 55	3 47	3 36	3 25	3 11	2 55	2 36	2 08	—	—	—	—	—	—
9 29N	29	4 29	4 24	4 17	4 11	4 02	3 54	3 44	3 32	3 18	3 01	2 07	—	—	—	—	—
7 40N	Sept. 3	4 48	4 44	4 39	4 34	4 28	4 22	4 14	4 06	3 56	3 44	3 12	2 11	—	—	—	—
5 49	8	5 07	5 04	5 00	4 57	4 52	4 48	4 42	4 37	4 30	4 23	4 02	3 28	2 21	—	—	—
3 55	13	5 25	5 24	5 21	5 19	5 16	5 14	5 10	5 07	5 02	4 58	4 48	4 29	3 58	2 44	—	—
2 00	18	5 44	5 43	5 42	5 41	5 40	5 39	5 37	5 37	5 35	5 34	5 30	5 24	5 14	4 53	3 46	Rises
0 03N	23	6 02	6 03	6 03	6 04	6 04	6 05	6 05	6 06	6 07	6 09	6 13	6 18	6 27	6 44	7 38	Sept. 21
1 54S	28	6 21	6 23	6 24	6 26	6 28	6 30	6 33	6 36	6 40	6 45	6 56	7 14	7 43	8 51	—	—
3 51S	Oct. 3	6 40	6 43	6 46	6 49	6 53	6 57	7 02	7 08	7 14	7 23	7 43	8 16	9 20	—	—	—
5 46	8	7 00	7 04	7 08	7 13	7 18	7 25	7 32	7 41	7 51	8 03	8 35	9 35	—	—	—	—
7 40	13	7 19	7 25	7 30	7 38	7 45	7 54	8 04	8 16	8 31	8 49	9 43	—	—	—	—	—
9 31	18	7 41	7 48	7 55	8 04	8 14	8 26	8 43	8 57	9 20	9 46	—	—	—	—	—	—
11 18	23	8 02	8 11	8 20	8 33	8 45	9 02	9 20	9 46	10 31	—	—	—	—	—	—	—
13 02S	28	8 25	8 37	8 49	9 05	9 23	9 46	10 15	11 28	—	—	—	—	—	—	—	—
14 40S	Nov. 2	8 51	9 05	9 22	9 41	10 00	10 51	—	—	—	—	—	—	—	—	—	—
16 12	7	9 32	9 36	9 58	10 30	—	—	—	—	—	—	—	—	—	—	—	—
17 38	12	10 17	10 14	10 54	—	—	—	—	—	—	—	—	—	—	—	—	—
19 45	17	10 54	11 16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20 05	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21 05S	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21 55S	Dec. 2	Sun does not set between—				Sun does not set between—				Sun does not set between—				Sun does not set between—			
22 35	7	Nov. 22	Nov. 18	Nov. 14	Nov. 10	Nov. 7	Nov. 4	Oct. 31	Oct. 28	Oct. 25	Oct. 23	Oct. 17	Oct. 12	Oct. 6	Oct. 1	Sept. 26	Sept. 21
23 04	12	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and	and
23 21	17	Jan. 20	Jan. 24	Jan. 28	Feb. 1	Feb. 4	Feb. 7	Feb. 11	Feb. 14	Feb. 17	Feb. 19	Feb. 25	Mar. 2	Mar. 7	Mar. 12	Mar. 17	Mar. 23
23 27	22	60	68	76	84	90	96	104	110	116	120	132	142	153	163	173	184
23 21N	27	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.	days.
23 03S	Jan. 1	Sun does not set between—				Sun does not set between—				Sun does not set between—				Sun does not set between—			

TABLE 11.—MEAN LOCAL TIME OF ASTRONOMICAL TWILIGHT.

		Beginning of morning twilight—North latitude.																		
Declination sun.	Ap- prox. date.	0°	10°	20°	30°	40°	45°	50°	55°	60°	62½°	65°	67½°	70°	75°	80°	90°			
23 05 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Twilight begins Jan. 30.		
21 08	16	4 45	5 02	5 17	5 31	5 45	5 52	6 00	6 09	6 19	6 24	6 31	6 38	6 47	6 57	7 11	7 59			
17 39	31	4 52	5 07	5 21	5 33	5 45	5 51	5 57	6 04	6 11	6 16	6 20	6 25	6 31	6 47	6 57	7 16			
13 01 S	Feb. 15	4 58	5 10	5 20	5 30	5 38	5 41	5 45	5 48	5 51	5 53	5 54	5 55	5 57	5 59	5 59	5 59			
7 30 S	Mar. 2	5 00	5 04	5 07	5 06	5 03	5 00	4 56	4 49	4 39	4 33	4 24	4 13	3 59	3 11	Sun rises Mar. 19.		
1 39 S	17	4 57	4 57	4 54	4 49	4 39	4 32	4 23	4 09	3 50	3 37	3 20	2 58	2 26	.....	.....	.....
4 15 N	Apr. 1	4 52	4 48	4 41	4 30	4 13	4 01	3 45	3 23	2 50	2 27	1 51	0 38	.....	.....	.....	.....
9 51 N	16	4 47	4 38	4 26	4 10	3 45	3 28	3 08	2 29	1 27	.....	.....	.....	.....	.....	.....	.....
14 50 N	May 1	4 43	4 30	4 14	3 51	3 18	2 54	2 20	1 20	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—										
18 55	16	4 40	4 24	4 04	3 36	2 54	2 22	1 30											
21 48	31	4 40	4 21	3 57	3 26	2 36	1 55	0 22	May 9	Apr. 23	Apr. 15	Apr. 8	Apr. 2	Mar. 26	Mar. 14	Mar. 1	.....		
23 17	June 15	4 41	4 21	3 56	3 22	2 27	1 40	June 2	and	and	and	and	and	and	and	and	and			
23 14 N	30	4 45	4 25	3 59	3 25	2 31	1 44	July 16	Aug. 6	Aug. 22	Aug. 30	Sept. 5	Sept. 12	Sept. 17	Oct. 2	Oct. 16	.....		
21 40 N	July 15	4 48	4 29	4 06	3 34	2 45	2 05	0 37	.....	.....	.....	.....	.....	.....	.....	.....	.....
18 43	30	4 50	4 34	4 14	3 47	3 05	2 34	1 43	.....	.....	.....	.....	.....	.....	.....	.....	.....
14 37	Aug. 14	4 50	4 38	4 22	3 59	3 27	3 08	2 29	1 31	.....	.....	.....	.....	.....	.....	.....	.....
9 39 N	29	4 43	4 39	4 28	4 11	3 47	3 30	3 06	2 33	1 32	.....	.....	.....	.....	.....	.....	.....
4 07 N	Sept. 13	4 44	4 40	4 33	4 22	4 05	3 53	3 38	3 16	2 44	2 20	1 46	0 38	.....	.....	.....	.....
1 42 S	28	4 39	4 39	4 37	4 31	4 22	4 15	4 05	3 52	3 38	3 20	3 03	2 45	2 02	.....	.....	.....
7 28	Oct. 13	4 34	4 38	4 40	4 40	4 37	4 34	4 30	4 23	4 13	4 06	3 56	3 47	3 33	2 44	.....	.....	
12 51 S	23	4 30	4 33	4 45	4 50	4 53	4 53	4 53	4 51	4 49	4 46	4 43	4 39	4 34	4 16	3 35	.....		
17 29 S	Nov. 12	4 29	4 41	4 51	5 00	5 08	5 13	5 15	5 18	5 21	5 22	5 23	5 24	5 25	5 27	5 26	.....		
20 59	27	4 30	4 45	4 58	5 11	5 22	5 28	5 34	5 41	5 46	5 52	5 57	6 02	6 07	6 13	6 50	.....		
23 02	Dec. 12	4 35	4 52	5 07	5 21	5 35	5 42	5 50	5 59	6 06	6 14	6 21	6 28	6 36	6 41	6 48	.....		
23 25 S	27	4 42	4 59	5 16	5 29	5 43	5 51	5 59	6 08	6 18	6 24	6 31	6 39	6 48	6 57	7 04	.....		

		End of evening twilight—North latitude.																		
Declination sun.	Ap- prox. date.	0°	10°	20°	30°	40°	45°	50°	55°	60°	62½°	65°	67½°	70°	75°	80°	90°			
23 03 S	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Twilight begins Jan. 30.		
21 02	16	7 22	7 05	6 50	6 35	6 22	6 15	6 07	5 58	5 48	5 43	5 38	5 29	5 20	5 09	4 56	4 09			
17 31	31	7 27	7 12	6 59	6 47	6 35	6 29	6 23	6 16	6 09	6 05	6 00	5 55	5 49	5 35	5 25	5 56			
12 51 S	Feb. 15	7 29	7 17	7 07	6 58	6 50	6 46	6 43	6 40	6 37	6 35	6 31	6 33	6 32	6 31	6 31	6 31			
7 18 S	Mar. 2	7 25	7 21	7 19	7 19	7 22	7 25	7 30	7 37	7 47	7 54	8 03	8 14	8 28	9 19	Sun rises Mar. 19.		
1 27 S	17	7 21	7 21	7 23	7 29	7 38	7 46	7 56	8 09	8 29	8 42	8 59	9 22	9 55	.....	.....	.....
4 26 N	Apr. 1	7 16	7 21	7 28	7 39	7 56	8 08	8 24	8 47	9 20	9 45	10 21	11 47	.....	.....	.....	.....
10 01 N	16	7 13	7 22	7 34	7 50	8 16	8 38	8 57	9 32	10 40	.....	.....	.....	.....	.....	.....	.....
14 59 N	May 1	7 12	7 24	7 41	8 04	8 37	9 01	9 36	10 37	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—										
19 02	16	7 13	7 29	7 49	8 17	8 59	9 32	10 24											
21 53	31	7 15	7 34	7 58	8 30	9 19	10 00	11 39	May 9	Apr. 23	Apr. 15	Apr. 8	Apr. 2	Mar. 26	Mar. 14	Mar. 1	.....		
23 18	June 15	7 19	7 39	8 04	8 38	9 33	10 20	June 2	and	and	and	and	and	and	and	and	and			
23 12 N	30	7 22	7 42	8 07	8 41	9 35	10 22	July 16	Aug. 6	Aug. 22	Aug. 30	Sept. 5	Sept. 12	Sept. 17	Oct. 2	Oct. 16	.....		
21 35 N	July 15	7 23	7 42	8 05	8 37	9 26	10 05	11 31	.....	.....	.....	.....	.....	.....	.....	.....	.....
18 36	30	7 24	7 38	7 58	8 25	9 06	9 38	10 27	.....	.....	.....	.....	.....	.....	.....	.....	.....
14 28	Aug. 14	7 19	7 31	7 47	8 09	8 42	9 05	9 39	10 35	.....	.....	.....	.....	.....	.....	.....	.....
9 29 N	29	7 14	7 22	7 34	7 50	8 14	8 31	8 54	9 28	10 26	.....	.....	.....	.....	.....	.....	.....
3 55 N	Sept. 13	7 08	7 12	7 19	7 30	7 46	7 58	8 12	8 35	9 06	9 30	10 03	11 04	.....	.....	.....	.....
1 54 S	28	7 03	7 03	7 04	7 10	7 19	7 26	7 36	7 48	8 07	8 20	8 36	8 56	9 28	.....	.....	.....
7 40	Oct. 13	6 59	6 55	6 52	6 52	6 55	6 58	7 02	7 09	7 18	7 25	7 33	7 44	7 58	8 45	.....	.....	
13 02 S	28	6 58	6 47	6 43	6 38	6 35	6 34	6 34	6 35	6 38	6 40	6 43	6 47	6 52	7 09	7 46	.....		
17 38 S	Nov. 12	7 00	6 48	6 37	6 28	6 20	6 16	6 13	6 10	6 07	6 05	6 04	6 02	6 02	5 59	5 59	.....		
21 05	27	7 05	6 50	6 37	6 24	6 13	6 07	6 00	5 54	5 46	5 42	5 38	5 33	5 28	5 19	5 10	4 43			
23 04	Dec. 12	7 12	6 55	6 40	6 26	6 12	6 05	5 57	5 48	5 38	5 33	5 26	5 19	5 10	5 04	4 46	4 59			
23 21 S	27	7 20	7 03	6 47	6 33	6 19	6 11	6 03	5 54	5 43	5 38	5 31	5 23	5 14	5 04	4 49	4 58			

⊕ Sun does not rise; twilight lasts from morning to evening, being strongest at noon.

TABLE 11.—MEAN LOCAL TIME OF ASTRONOMICAL TWILIGHT.

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Declination sun.	Ap-prox. date.	Beginning of morning twilight—South latitude.																
		0°	10°	20°	30°	40°	45°	50°	55°	60°	62½°	65°	67½°	70°	75°	80°	90°	
0°	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	
23 06 S	Jan. 1	4 45	4 25	4 00	3 26	2 32	1 46	Jan. 11	Nov. 10	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—								
21 09	16	4 52	4 34	4 11	3 41	2 53	2 15	1 00	Feb. 2									
17 39	31	4 58	4 43	4 24	3 58	3 19	2 40	2 05	Oct. 26	Oct. 19	Oct. 12	Oct. 5	Sept. 29	Sept. 15	Sept. 2			
13 01 S	Feb. 15	5 00	4 49	4 35	4 14	3 45	3 23	2 53	Feb. 18	Feb. 25	Mar. 3	Mar. 10	Mar. 16	Mar. 29	Apr. 11			
7 30 S	Mar. 2	5 00	4 53	4 43	4 29	4 08	3 53	3 33	3 04	2 19	1 40	.....	.....	.....	.....	.....	Sunsets	Mar. 23.
1 39 S	17	4 57	4 54	4 49	4 41	4 27	4 17	4 05	3 47	3 21	3 03	2 39	2 04	0 51	.....	.....
4 15 N	Apr. 1	4 52	4 54	4 54	4 51	4 44	4 39	4 31	4 21	4 07	3 57	3 44	3 28	3 06	1 37	.....	
9 51 N	16	4 47	4 53	4 57	4 59	4 59	4 57	4 54	4 50	4 44	4 39	4 34	4 26	4 16	3 43	2 19		
14 50 N	May 1	4 43	4 53	5 01	5 07	5 12	5 14	5 15	5 16	5 16	5 15	5 14	5 12	5 09	5 00	⊕ 4 38		
18 55	16	4 40	4 52	5 05	5 15	5 24	5 29	5 33	5 38	5 42	5 45	5 47	5 50	5 53	⊕ 6 00	⊕ 6 11	Twilight ends	
21 48	31	4 40	4 55	5 09	5 22	5 35	5 41	5 48	5 55	6 04	6 08	6 13	6 19	6 26	⊕ 6 45	⊕ 7 20		
23 17	June 15	4 41	4 58	5 14	5 28	5 42	5 50	5 58	6 06	6 17	6 23	6 29	6 37	⊕ 6 46	⊕ 7 12	⊕ 8 01	May 12	
23 14 N	30	4 45	5 02	5 17	5 31	5 45	5 53	6 01	6 09	6 20	6 25	6 32	6 40	⊕ 6 49	⊕ 7 14	⊕ 8 08		
21 40 N	July 15	4 48	5 04	5 17	5 32	5 43	5 49	5 56	6 03	6 11	6 16	6 20	6 27	⊕ 6 33	⊕ 6 52	⊕ 7 25	Twilight begins	
18 43	30	4 50	5 03	5 14	5 25	5 34	5 38	5 43	5 47	5 51	5 53	5 56	5 58	⊕ 6 01	⊕ 6 07	⊕ 6 16		
14 37	Aug. 14	4 50	5 00	5 08	5 14	5 19	5 21	5 22	5 22	5 22	5 21	5 19	5 17	5 14	5 04	⊕ 4 40		
9 39 N	29	4 48	4 54	4 58	5 00	4 59	4 58	4 55	4 50	4 43	4 39	4 32	4 25	4 14	3 40	2 12	Aug. 2.	
4 07 N	Sept. 13	4 44	4 46	4 46	4 42	4 36	4 30	4 23	4 12	3 57	3 47	3 35	3 19	2 56	1 24	.....	Sun rises	
1 42 S	28	4 39	4 36	4 31	4 23	4 09	4 00	3 47	3 29	3 03	2 45	2 20	1 44	0 30	.....	.....	Sept. 21.	
7 28	Oct. 13	4 34	4 27	4 17	4 08	3 42	3 27	3 07	2 39	1 53	1 15	.....	.....	.....	.....	.....
12 51 S	28	4 30	4 19	4 04	3 44	3 15	2 54	2 24	1 38	.....	.....	.....	.....	.....	.....	.....
17 29 S	Nov. 12	4 29	4 14	3 55	3 29	2 45	2 22	1 38	Nov. 10	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—								
20 59	27	4 30	4 12	3 50	3 19	2 32	1 55	0 42	Feb. 2									
23 02	Dec. 12	4 35	4 15	3 50	3 16	2 23	1 37	Dec. 3	Oct. 26	Oct. 19	Oct. 12	Oct. 5	Sept. 29	Sept. 15	Sept. 2			
23 22 S	27	4 42	4 22	3 57	3 22	2 28	1 40	Jan. 11	Feb. 18	Feb. 25	Mar. 3	Mar. 10	Mar. 16	Mar. 29	Apr. 11			
Declination sun.	Ap-prox. date.	End of evening twilight—South latitude.																
		0°	10°	20°	30°	40°	45°	50°	55°	60°	62½°	65°	67½°	70°	75°	80°	90°	
0°	Jan. 1	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	
23 08 S	Jan. 1	7 22	7 41	8 07	8 41	9 34	10 20	Jan. 11	Nov. 10	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—								
21 02	16	7 27	7 46	8 08	8 39	9 26	10 04	11 17	Feb. 2									
17 31	31	7 29	7 44	8 08	8 29	9 07	9 36	10 20	Oct. 26	Oct. 19	Oct. 12	Oct. 5	Sept. 29	Sept. 15	Sept. 2			
12 51 S	Feb. 15	7 28	7 39	7 54	8 14	8 43	9 05	9 34	Feb. 18	Feb. 25	Mar. 3	Mar. 10	Mar. 16	Mar. 29	Apr. 11			
7 18 S	Mar. 2	7 25	7 32	7 41	7 55	8 16	8 31	8 51	9 19	10 03	10 41	.....	.....	.....	.....	.....	Sunsets	Mar. 23.
1 27 S	17	7 21	7 23	7 28	7 36	7 49	7 59	8 11	8 29	8 54	9 12	9 36	10 10	11 07	.....	.....
4 26 N	Apr. 1	7 16	7 14	7 14	7 17	7 24	7 29	7 36	7 46	8 00	8 10	8 22	8 38	9 00	10 25	.....	
10 01 N	16	7 13	7 07	7 03	7 00	7 01	7 02	7 04	7 08	7 15	7 20	7 25	7 33	7 42	8 14	9 35		
14 59 N	May 1	7 12	7 02	6 53	6 47	6 42	6 40	6 38	6 38	6 38	6 38	6 39	6 41	6 43	6 51	⊕ 7 13		
19 02	16	7 13	6 59	6 48	6 37	6 28	6 23	6 19	6 14	6 09	6 07	6 04	6 01	5 58	⊕ 5 50	⊕ 5 39	Twilight ends	
21 53	31	7 15	6 59	6 45	6 33	6 20	6 13	6 06	5 59	5 51	5 46	5 41	5 35	⊕ 5 28	⊕ 5 08	⊕ 4 33		
23 18	June 15	7 19	7 02	6 47	6 32	6 18	6 10	6 02	5 54	5 43	5 37	5 31	5 23	⊕ 5 14	⊕ 4 48	⊕ 3 59	May 12	
23 12 N	30	7 22	7 05	6 50	6 36	6 21	6 14	6 06	5 57	5 47	5 41	5 35	5 27	⊕ 5 18	⊕ 4 53	⊕ 4 05		
21 35 N	July 15	7 23	7 08	6 54	6 41	6 29	6 22	6 16	6 09	6 01	5 56	5 51	5 46	⊕ 5 39	⊕ 5 21	⊕ 4 49	Twilight begins	
18 36	30	7 24	7 09	6 58	6 48	6 39	6 35	6 31	6 26	6 22	6 20	6 18	6 15	⊕ 6 13	⊕ 6 07	⊕ 5 59		
14 28	Aug. 14	7 19	7 09	7 02	6 55	6 51	6 49	6 48	6 48	6 49	6 50	6 51	6 53	6 56	7 07	⊕ 7 33	Aug. 2.	
9 29 N	29	7 14	7 08	7 04	7 03	7 03	7 05	7 08	7 13	7 20	7 25	7 31	7 39	7 50	8 25	9 57		
3 55 N	Sept. 13	7 08	7 07	7 07	7 10	7 17	7 23	7 30	7 41	7 56	8 07	8 20	8 37	8 59	10 36	.....	Sun rises	
1 54 S	28	7 08	7 05	7 11	7 19	7 33	7 43	7 56	8 14	8 41	9 00	9 24	10 01	11 29	.....	.....	Sept. 21.	
7 40	Oct. 13	6 59	7 06	7 16	7 30	7 52	8 07	8 27	8 56	9 42	10 23	.....	.....	.....	.....	.....
13 02 S	28	6 58	7 09	7 24	7 44	8 14	8 35	9 05	9 32	.....	.....	.....	.....	.....	.....	.....
17 38 S	Nov. 12	7 00	7 15	7 34	8 00	8 39	9 06	9 52	Nov. 10	It is either twilight or continuous daylight (Table 10) throughout the whole 24 hours of each day, between—								
21 05	27	7 05	7 23	7 46	8 16	9 04	9 42	10 56	Feb. 2									
23 04	Dec. 12	7 12	7 32	7 57	8 31	9 24	10 11	Dec. 3	Oct. 26	Oct. 19	Oct. 12	Oct. 5	Sept. 29	Sept. 15	Sept. 2			
23 21 S	27	7 20	7 40	8 06	8 39	9 34	10 22	Jan. 11	Feb. 18	Feb. 25	Mar. 3	Mar. 10	Mar. 16	Mar. 29	Apr. 11			

⊕ Sun does not rise; twilight lasts from morning to evening, being strongest at noon.

TABLE 12.—REDUCTION OF LOCAL MEAN TIME OF SUNRISE AND SUNSET TO STANDARD MERIDIAN TIME.

Difference of longitude between local and standard meridian.	Reduction to be applied to local mean time.	Difference of longitude between local and standard meridian.	Reduction to be applied to mean local time.	Difference of longitude between local and standard meridian.	Reduction to be applied to mean local time.
° ' ° '	Minutes.	° ' ° '	Minutes.	°	Hours.
0 00 to 0 07	0	7 23 to 7 37	30	15	1
0 08 to 0 22	1	7 38 to 7 52	31	30	2
0 23 to 0 37	2	7 53 to 8 07	32	45	3
0 38 to 0 52	3	8 08 to 8 22	33	60	4
0 53 to 1 07	4	8 23 to 8 37	34	75	5
1 08 to 1 22	5	8 38 to 8 52	35	90	6
1 23 to 1 37	6	8 53 to 9 07	36	105	7
1 38 to 1 52	7	9 08 to 9 22	37	120	8
1 53 to 2 07	8	9 23 to 9 37	38	135	9
2 08 to 2 22	9	9 38 to 9 52	39	150	10
2 23 to 2 37	10	9 53 to 10 07	40	165	11
2 38 to 2 52	11	10 08 to 10 22	41	180	12
2 53 to 3 07	12	10 23 to 10 37	42		
3 08 to 3 22	13	10 38 to 10 52	43		
3 23 to 3 37	14	10 53 to 11 07	44		
3 38 to 3 52	15	11 08 to 11 22	45		
3 53 to 4 07	16	11 23 to 11 37	46		
4 08 to 4 22	17	11 38 to 11 52	47		
4 23 to 4 37	18	11 53 to 12 07	48		
4 38 to 4 52	19	12 08 to 12 22	49		
4 53 to 5 07	20	12 23 to 12 37	50		
5 08 to 5 22	21	12 38 to 12 52	51		
5 23 to 5 37	22	12 53 to 13 07	52		
5 38 to 5 52	23	13 08 to 13 22	53		
5 53 to 6 07	24	13 23 to 13 37	54		
6 08 to 6 22	25	13 38 to 13 52	55		
6 23 to 6 37	26	13 53 to 14 07	56		
6 38 to 6 52	27	14 08 to 14 22	57		
6 53 to 7 07	28	14 23 to 14 37	58		
7 08 to 7 22	29	14 38 to 14 52	59		

If local meridian is east of standard meridian, subtract from local mean time.

If local meridian is west of standard meridian, add to local mean time.

For differences of longitude less than 15°, use the first part of the table. For greater differences take from the last part of the table the hour corresponding to the nearest tabulated value less than the given difference, and from the first part of the table the minutes corresponding to the remainder obtained by subtracting this tabulated value from the given difference.

INDEX.

This Index gives the maritime States of the United States and Canada; the principal countries of the world; important islands and bodies of water, and the 70 ports for which full predictions are given, these ports being printed in small capitals here and also in Table 3.

In order to find any station given in Table 3, find in this Index the name of the country, State, or body of water in or upon which the station is located; the reference will be to the beginning of the list of stations given under that heading, the particular port required appearing in its geographic sequence.

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NOTE.

In the preparation of these tide tables the best available material has been used; but the predictions and tidal constants are necessarily of unequal merit for different parts of the globe, owing to a lack of properly distributed observations upon which to base conclusions.

It is our purpose to substitute better values, as soon as obtained, wherever those given may prove unsatisfactory, and therefore any tidal observations, even if consisting of only a few tides, will be very acceptable.

To persons willing to aid in the collecting of tidal data, we would suggest to observe the height of the sea at regular intervals of one hour, day and night, whenever practicable, rather than the high and low waters only for the same period. Observations taken even at longer intervals of time, such as every two or three hours, will be useful.

It must be borne in mind that these tables aim to give the times and heights of high and low waters, and *not* the times of turning of the current or of slack water. For ocean stations there is usually but little difference between the time of high or low water and the beginning of ebb or flood current; but for places in narrow channels, landlocked harbors, or on tidal rivers the time of slack current may differ by two or three hours from the time of high or low water stand, and local knowledge is required to enable one to make the proper allowance for this delay in the condition of tidal currents.

It is desired to collect information relating to tidal currents with the view of including it in subsequent issues of this publication.

All persons are invited to send information or suggestions for increasing the usefulness of these Tide Tables to the

SUPERINTENDENT OF THE COAST AND GEODETIC SURVEY,

WASHINGTON, D. C., U. S. A.

